

POLYCHAETE WORMS. II

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INTRODUCTION

THE Polychaeta studied in this report were collected by the staff of the Discovery Committee in the R.R.S. 'Discovery' and 'Discovery II', in the 'William Scoresby', and at the Marine Biological Station, South Georgia. There follows a list of the stations. Those made by the 'Discovery' and the 'Discovery II' are given first and have no letters prefixed to their numbers; those of the 'William Scoresby' follow, and have the prefix WS, and lastly those of the Marine Biological Station are preceded by MS. The symbols in the list of stations representing the various kinds of gear used are explained both in my earlier report (1930) on the Discovery Polychaeta and in the Station Lists published in this series of Reports.

STATION LIST

R.R.S. 'DISCOVERY'

- St. 17. 4. iii. 26. 46 miles N 46° E of Jason Light, South Georgia. 500-250 m. Gear N 70 V.
- St. 27. 15. iii. 26. West Cumberland Bay, South Georgia; 3.3 miles S 44° E of Jason Light. 110 m. Gear DL. Bottom: mud and rock.
- St. 28. 16. iii. 26. West Cumberland Bay, South Georgia; 3.3 miles S 45° W of Jason Light. 168 m. Gear DC. Bottom: mud.
- St. 30. 16. iii. 26. West Cumberland Bay, South Georgia; 2.8 miles S 24° W of Jason Light. 251 m. Gear DLH. Bottom: mud and stones.
- St. 39. 25. iii. 26. East Cumberland Bay, South Georgia. From 8 cables S 81° W of Merton Rock to 1.3 miles N 7° E of Macmahon Rock. 179-235 m. Gear N 4-T. Bottom: grey mud.
- St. 41. 28. iii. 26. 16½ miles N 39° E of Banff Point, South Georgia. Gear N 70 V.
- St. 41 A. 265-150 m.; St. 41 B. 265-150 m.; St. 41 D. 240-150 m.; St. 41 E. 150-100 m.
- St. 42. 1. iv. 26. Off mouth of Cumberland Bay, South Georgia. From 6.3 miles N 89° E of Jason Light to 4 miles N 39° E of Jason Light. 120-204 m. Gear OTL. Bottom: mud.
- St. 45. 6. iv. 26. 2.7 miles S 85° E of Jason Light, South Georgia. 238-270 m. Gear OTL. Bottom: grey mud.
- St. 53. 12. v. 26. Port Stanley, East Falkland Island. Hulk of 'Great Britain'. 0-2 m. Gear RM.
- St. 100. 2. x. 26. 33° 20' to 33° 46' S, 15° 18' to 15° 08' E. 260-310 m. Gear TYF.
- St. 114. 12. xi. 26. 52° 25' S, 9° 50' E. 0-5 m. Gear N 100 H.
- St. 123. 15. xii. 26. Off mouth of Cumberland Bay, South Georgia. From 4.1 miles N 54° E of Larsen Point to 1.2 miles S 62° W of Larsen Point. 230-250 m. Gear OTL, NCS-T. Bottom: grey mud.

- St. 124. 18. xii. 26. $53^{\circ} 45' 30''$ S, $36^{\circ} 32' 30''$ W. 0-5 m. Gear N 100 H.
- St. 128. 19. xii. 26. $53^{\circ} 38' 30''$ S, $37^{\circ} 08'$ W. 100 m. Gear N 100 H.
- St. 130. 20. xii. 26. $54^{\circ} 06'$ S, $36^{\circ} 23'$ W. 77 m. Gear N 100 H.
- St. 133. 20-21. xii. 26. $53^{\circ} 45' 30''$ S, $35^{\circ} 46' 30''$ W. 0-5 m., 50 m., 100 m. Gear N 100 H.
- St. 136. 21. xii. 26. $54^{\circ} 22'$ S, $35^{\circ} 21'$ W. 0-5 m. Gear N 100 H.
- St. 137. 22. xii. 26. $54^{\circ} 19' 30''$ S, $35^{\circ} 03' 30''$ W. 132 m. Gear N 100 H.
- St. 138. 22. xii. 26. $54^{\circ} 17'$ S, $34^{\circ} 47'$ W. 77 m., 155 m. Gear N 100 H.
- St. 139. 22-23. xii. 26. $53^{\circ} 30' 15''$ S, $35^{\circ} 50' 45''$ W. 0-5 m. Gear N 100 H.
- St. 142. 30. xii. 26. East Cumberland Bay, South Georgia. From $54^{\circ} 11' 30''$ S, $36^{\circ} 35'$ W to $54^{\circ} 12'$ S, $36^{\circ} 29' 30''$ W. 88-273 m. Gear NCS-T. Bottom: mud.
- St. 144. 5. i. 27. Off mouth of Stromness Harbour, South Georgia. From $54^{\circ} 04'$ S, $36^{\circ} 27'$ W to $53^{\circ} 58'$ S, $36^{\circ} 26'$ W. 155-178 m. Gear NCS-T. Bottom: green mud and sand.
- St. 149. 10. i. 27. Mouth of East Cumberland Bay, South Georgia. From 1.15 miles N $76\frac{1}{2}^{\circ}$ W to 2.62 miles S 11° W of Merton Rock. 200-234 m. Gear NCS-T. Bottom: mud.
- St. 151. 16. i. 27. $53^{\circ} 25'$ S, $35^{\circ} 15'$ W. 1000-750 m. Gear N 70 V.
- St. 156. 20. i. 27. $53^{\circ} 51'$ S, $36^{\circ} 21' 30''$ W. 200-236 m. Gear DLH. Bottom: rock.
- St. 160. 7. ii. 27. Near Shag Rocks, South Georgia, $53^{\circ} 43' 40''$ S, $40^{\circ} 57'$ W. 100-50 m., gear N 70 V; 177 m., gear DLH. Bottom: grey mud, stones and rock.
- St. 164. 18. ii. 27. East end of Normanna Strait, South Orkneys near Cape Hansen, Coronation Island. 24-36 m. Gear BTS, NCS-T.
- St. 167. 20. ii. 27. Off Signy Island, South Orkneys, $60^{\circ} 50' 30''$ S, $46^{\circ} 15'$ W. 244-344 m. Gear N 7-T. Bottom: green mud.
- St. 170. 23. ii. 27. Off Cape Bowles, Clarence Island, $61^{\circ} 25' 30''$ S, $53^{\circ} 46'$ W. 342 m. Gear DLH. Bottom: rock.
- St. 175. 2. iii. 27. Bransfield Strait, South Shetlands, $63^{\circ} 17' 20''$ S, $59^{\circ} 48' 15''$ W. 200 m. Gear DLH. Bottom: mud, stones and gravel.
- St. 182. 14. iii. 27. Schollaert Channel, Palmer Archipelago, $64^{\circ} 21'$ S, $62^{\circ} 58'$ W. 278-500 m. Gear NCS-T. Bottom: mud.
- St. 190. 24. iii. 27. Bismarck Strait, Palmer Archipelago, $64^{\circ} 56'$ S, $65^{\circ} 35'$ W. 93-126 m. Gear DLH. Bottom: stones, mud and rock.
- St. 268. 25. vii. 27. $18^{\circ} 37'$ S, $10^{\circ} 46'$ E. 73-0 m. Gear N 100 B.
- St. 274. 4. viii. 27. Off St Paul de Loanda, Angola. From $8^{\circ} 40' 15''$ S, $13^{\circ} 13' 45''$ E to $8^{\circ} 38' 15''$ S, $13^{\circ} 13'$ E. 64-65 m. Gear OTL. Bottom: grey mud.

R.R.S. 'DISCOVERY II'

- St. 334. 4. ii. 30. $53^{\circ} 43'$ S, $36^{\circ} 51'$ W. 110-0 m. Gear N 70 B.
- St. 362. 25. ii. 30. $56^{\circ} 04'$ S, $29^{\circ} 15'$ W to $56^{\circ} 03\frac{1}{4}'$ S, $29^{\circ} 20'$ W. 97-0 m. Gear N 100 B.
- St. 363. 26. ii. 30. 2.5 miles S 80° E of SE point of Zavodovski Island, South Sandwich Islands. 329-278 m. Gear DLH.
- St. 366. 6. iii. 30. 4 cables S of Cook Island, South Sandwich Islands. 322-155 m. Gear DLH. Bottom: black sand.
- St. 368. 8. iii. 30. Douglas Strait, Southern Thule, South Sandwich Islands, 1 mile N of Twitcher Rock. 653 m. Gear DLH. Bottom: black mud.
- St. 371. 14. iii. 30. 1 mile E of Montagu Island, South Sandwich Islands. 99-161 m. Gear OTL, N 7-T, N 4-T.

- St. 373. 19. iii. 30. $58^{\circ} 00' S, 33^{\circ} 44' W$. 275-0 m. Gear TYFB.
- St. 374. 20. iii. 30. $57^{\circ} 55' S, 37^{\circ} 30' W$. 270-0 m. Gear TYFB.
- St. 395. 13. v. 30. $48^{\circ} 26\frac{3}{4}' S, 22^{\circ} 10' W$ to $48^{\circ} 26\frac{1}{2}' S, 22^{\circ} 06\frac{1}{2}' W$. 1500-1600 m. Gear N 450 H.
- St. 399. 18. v. 30. 1 mile SE of SW point of Gough Island. 141-102 m. Gear DLH.
- St. 404. 24. v. 30. $35^{\circ} 34' S, 15^{\circ} 00\frac{1}{2}' E$. 101-0 m. Gear N 100 B.
- St. 405. 4. vi. 30. $33^{\circ} 50\frac{1}{2}' S, 15^{\circ} 46' E$ to $34^{\circ} 16' S, 15^{\circ} 02' E$. 1200-0 m. Gear TYFB.
- St. 407. 12. vi. 30. $35^{\circ} 13' S, 17^{\circ} 50\frac{1}{2}' E$ to $34^{\circ} 57' S, 17^{\circ} 48' E$. 220-0 m. Gear TYFB.
- St. 413. 21. viii. 30. $33^{\circ} 13' S, 15^{\circ} 46\frac{1}{2}' E$. 550-350 m., 350-0 m. Gear TYFB.
- St. 419. 30. viii. 30. $36^{\circ} 29' S, 18^{\circ} 16\frac{1}{4}' E$ to $36^{\circ} 29' S, 18^{\circ} 15\frac{1}{4}' E$. 84-0 m. Gear N 100 B.
- St. 446. 9. x. 30. $36^{\circ} 14' S, 16^{\circ} 09\frac{3}{4}' E$. 106-0 m. Gear N 100 B.
- St. 448. 10. x. 30. $39^{\circ} 03' S, 16^{\circ} 11\frac{3}{4}' E$. 161-0 m. Gear N 100 B.
- St. 449. 11-12. x. 30. $42^{\circ} 30\frac{1}{2}' S, 15^{\circ} 14\frac{1}{4}' E$. 150-0 m. Gear N 100 B.
- St. 450. 12-13. x. 30. $44^{\circ} 57\frac{3}{4}' S, 12^{\circ} 57\frac{1}{4}' E$ to $44^{\circ} 56\frac{1}{2}' S, 12^{\circ} 54' E$. 150-0 m. Gear N 100 B.
- St. 451. 13-14. x. 30. $47^{\circ} 19\frac{3}{4}' S, 11^{\circ} 05' E$. 170-0 m. Gear N 100 B.
- St. 453. 16-17. x. 30. $54^{\circ} 05\frac{1}{2}' S, 3^{\circ} 57\frac{1}{4}' E$ to $54^{\circ} 07' S, 04^{\circ} 03' E$. 165-0 m. Gear N 100 B.
- St. 454. 17. x. 30. $53^{\circ} 42' S, 4^{\circ} 42' E$. 192-0 m. Gear N 100 B.
- St. 455. 18. x. 30. $53^{\circ} 55\frac{1}{2}' S, 4^{\circ} 47' E$. 116-0 m. Gear N 100 B.
- St. 456. 18. x. 30. 1 mile E of Bouvet Island. 40-45 m. Gear DLH.
- St. 458. 19. x. 30. 7 miles S $50^{\circ} W$ of Cape Circumcision, Bouvet Island. 357-377 m. Gear DLH.
- St. 459. 19. x. 30. $55^{\circ} 09\frac{1}{4}' S, 2^{\circ} 00' E$. 183-0 m. Gear N 100 B.
- St. 460. 20-21. x. 30. $56^{\circ} 46' S, 0^{\circ} 41\frac{3}{4}' W$. 155-0 m. Gear N 100 B.
- St. 461 C. 21-22. x. 30. $56^{\circ} 44' S, 2^{\circ} 22' W$. (No particulars of depth or gear given on label with specimens.)
- St. 474. 12. xi. 30. 1 mile W of Shag Rocks, South Georgia. 199 m. Gear DLH.
- St. 514. 26. xi. 30. $55^{\circ} 51' S, 35^{\circ} 32' W$. 155-0 m. Gear N 100 B.
- St. 527. 11. xii. 30. $54^{\circ} 09\frac{1}{4}' S, 34^{\circ} 29\frac{1}{2}' W$. 122 (-0) m. Gear N 450 H.
- St. 533. 16. xii. 30. $59^{\circ} 36' S, 42^{\circ} 34' W$. 165-0 m. Gear N 100 B.
- St. 567. 3. i. 31. $66^{\circ} 45' S, 89^{\circ} 24' W$. 140-0 m. Gear N 100 B.
- St. 569. 4. i. 31. $68^{\circ} 40\frac{1}{2}' S, 96^{\circ} 21' W$. 137-0 m. Gear N 100 B.
- St. 575. 8. i. 31. $67^{\circ} 53\frac{1}{4}' S, 91^{\circ} 23' W$. 97-0 m. Gear N 100 B.
- St. 579. 10. i. 31. $66^{\circ} 41\frac{3}{4}' S, 79^{\circ} 10' W$. 180-0 m. Gear N 100 B.
- St. 588. 13. i. 31. $66^{\circ} 11\frac{1}{2}' S, 71^{\circ} 50\frac{1}{4}' W$. 460-150 m. Gear N 100 B.
- St. 590. 14. i. 31. $65^{\circ} 20\frac{1}{2}' S, 73^{\circ} 30\frac{1}{2}' W$. 1150-1400 m. Gear TYFH.
- St. 591. 14. i. 31. $64^{\circ} 51\frac{1}{2}' S, 74^{\circ} 22\frac{1}{2}' W$. 122-0 m. Gear N 100 B.
- St. 599. 17. i. 31. $67^{\circ} 08' S, 69^{\circ} 06\frac{1}{2}' W$. 203 m. Gear DLH.
- St. 600. 17. i. 31. $67^{\circ} 09' S, 69^{\circ} 27' W$. 501-527 m. Gear OTL.
- St. 619. 19. ii. 31. $59^{\circ} 33' S, 43^{\circ} 07\frac{1}{4}' W$. 114-0 m. Gear N 70 B.
- St. 652. 14. iii. 31. Burdwood Bank, $54^{\circ} 04' S, 61^{\circ} 40' W$. 171-169 m. Gear OTL.
- St. 701. 16. x. 31. $14^{\circ} 39.3' N, 25^{\circ} 51.7' W$. 242-0 m. Gear TYFB.
- St. 702. 17. x. 31. $10^{\circ} 59.3' N, 27^{\circ} 03.8' W$. 236-0 m. Gear TYFB.
- St. 704. 19. x. 31. $3^{\circ} 37.7' N, 29^{\circ} 14' W$. 231-0 m. Gear TYFB.
- St. 705. 20. x. 31. $0^{\circ} 03.4' N, 30^{\circ} 36.8' W$. 150-0 m. Gear TYFB.

- St. 707. 22. x. 31. $6^{\circ} 44' S, 33^{\circ} 33' W$. 182-0 m. Gear TYFB.
 St. 708. 23. x. 31. $10^{\circ} 20' 6'' S, 34^{\circ} 54' 7'' W$. 208-0 m. Gear TYFB.
 St. 709. 24. x. 31. $14^{\circ} 01' 4'' S, 36^{\circ} 30' 7'' W$. 216-0 m. Gear TYFB.
 St. 710. 26. x. 31. $21^{\circ} 45' S, 39^{\circ} 50' W$. 294-0 m. Gear TYFB.
 St. 713. 29. x. 31. $31^{\circ} 37' 1'' S, 45^{\circ} 00' W$. 200-0 m. Gear TYFB.
 St. 714. 30. x. 31. $35^{\circ} 09' 5'' S, 47^{\circ} 00' W$. 246-0 m. Gear TYFB.
 St. 716. 1. xi. 31. $42^{\circ} 08' 8'' S, 51^{\circ} 35' W$. 212-0 m. Gear TYFB.
 St. 718. 3. xi. 31. $47^{\circ} 27' 2'' S, 55^{\circ} 10' 2'' W$. 262-0 m. Gear TYFB.
 St. 724. 16. xi. 31. Fortescue Bay, Magellan Strait. 0-5 m. Gear NS.
 St. 929. 16. viii. 32. $34^{\circ} 21' S, 172^{\circ} 48' E$ to $34^{\circ} 22' 2'' S, 172^{\circ} 49' 8'' E$. 58-55 m. Gear OTL.
 St. 934. 17. viii. 32. $34^{\circ} 11' 6'' S, 172^{\circ} 10' 9'' E$ to $34^{\circ} 11' 4'' S, 172^{\circ} 10' 3'' E$. 98-0 m. Gear DRL.
 St. 935. 17. viii. 32. $34^{\circ} 11' 5'' S, 172^{\circ} 08' 5'' E$ to $34^{\circ} 11' 9'' S, 172^{\circ} 08' 5'' E$. 84-0 m. Gear DRL.
 St. 936. 18. viii. 32. $35^{\circ} 03' 5'' S, 172^{\circ} 58' 2'' E$ to $35^{\circ} 05' 4'' S, 172^{\circ} 58' 7'' E$. 50-0 m., gear DC; 50-57 m., gear N 4-T.
 St. 937. 18. viii. 32. $35^{\circ} 18' 7'' S, 173^{\circ} 08' 2'' E$. 48-0 m. Gear DC.
 St. 938. 18. viii. 32. $35^{\circ} 30' 6'' S, 173^{\circ} 19' E$. 37-0 m. Gear DC.
 St. 939. 18. viii. 32. $35^{\circ} 49' 6'' S, 173^{\circ} 27' E$ to $35^{\circ} 51' 6'' S, 173^{\circ} 28' 9'' E$. 87-87 m. Gear N 4-T, DC.
 St. 941. 20. viii. 32. $40^{\circ} 51' 4'' S, 174^{\circ} 48' 2'' E$ to $40^{\circ} 55' 8'' S, 174^{\circ} 46' 7'' E$. 128-0 m. Gear DRL.
 St. 1148. 9. iii. 33. $63^{\circ} 52' S, 0^{\circ} 24' 9'' W$. 0-5 m. Gear N 100 H.

R.R.S. 'WILLIAM SCORESBY'

- St. WS 4. 30. ix. 26. $32^{\circ} 45' S, 18^{\circ} 10' E$. 45-47 m. Gear DL.
 St. WS 20. 28. xi. 26. $53^{\circ} 52' 30'' S, 36^{\circ} 00' W$. 190 m. Gear N 100 H.
 St. WS 22. 30. xi. 26. $53^{\circ} 38' S, 35^{\circ} 35' W$. 82 m. Gear N 100 H.
 St. WS 25. 17. xii. 26. Undine Harbour (North), South Georgia. 18-27 m. Gear BTS. Bottom: mud and sand.
 St. WS 26. 18. xii. 26. $53^{\circ} 33' 15'' S, 37^{\circ} 45' 15'' W$. 96 m., 192 m. Gear N 100 H.
 St. WS 27. 19. xii. 26. $53^{\circ} 55' S, 38^{\circ} 01' W$. 107 m. Gear N 100 H.
 St. WS 33. 21. xii. 26. $54^{\circ} 59' S, 35^{\circ} 24' W$. 130 m. Gear N 100 H.
 St. WS 35. 21-22. xii. 26. $55^{\circ} 13' 15'' S, 34^{\circ} 59' W$. 0-5 m. Gear N 100 H.
 St. WS 38. 22-23. xii. 26. $54^{\circ} 01' S, 35^{\circ} 14' W$. 106 (-53) m. Gear N 100 H.
 St. WS 39. 23. xii. 26. $54^{\circ} 08' S, 35^{\circ} 43' W$. 87? m. Gear N 100 H.
 St. WS 40. 7. i. 27. $55^{\circ} 09' S, 35^{\circ} 58' W$. 175-100 m. Gear N 70 V.
 St. WS 44. 8. i. 27. $55^{\circ} 06' S, 36^{\circ} 57' W$. 750-500 m., 1000-750 m. Gear N 70 V.
 St. WS 45. 8. i. 27. $54^{\circ} 38' 30'' S, 37^{\circ} 30' 55'' W$. 0-5 m. Gear N 100 H.
 St. WS 53. 11-12. i. 27. From $54^{\circ} 03' 30'' S, 38^{\circ} 35' W$ to $53^{\circ} 29' S, 37^{\circ} 13' 45'' W$. 0-5 m. Gear N 100 H.
 St. WS 54. 12. i. 27. $53^{\circ} 29' S, 37^{\circ} 13' 45'' W$. 500-250 m. Gear N 70 V.
 St. WS 55. 12. i. 27. $53^{\circ} 15' 30'' S, 37^{\circ} 13' 45'' W$. 164 m. Gear N 100 H.
 St. WS 79. 13. iii. 27. $51^{\circ} 01' 30'' S, 64^{\circ} 59' 30'' W$. From $51^{\circ} 00' S, 65^{\circ} 00' W$ to $51^{\circ} 03' S, 64^{\circ} 59' W$. 132-131 m. Gear N 7-T. Bottom: fine dark sand.
 St. WS 83. 24. iii. 27. 14 miles S $64^{\circ} W$ of George Island, East Falkland Island. From $52^{\circ} 28' S, 60^{\circ} 06' W$ to $52^{\circ} 30' S, 60^{\circ} 09' 30'' W$. 137-129 m. Gear OTC. Bottom: fine green sand and shell.

St. WS 84. 24. iii. 27. $7\frac{1}{2}$ miles S 9° W of Sea Lion Island, East Falkland Islands. From $52^{\circ} 33' S$, $59^{\circ} 08' W$ to $52^{\circ} 34' 30'' S$, $59^{\circ} 11' W$. 75-74 m. Gear OTC. Bottom: coarse sand, shell and stones.

St. WS 85. 25. iii. 27. 8 miles S 66° E of Lively Island, East Falkland Islands. From $52^{\circ} 09' S$, $58^{\circ} 14' W$ to $52^{\circ} 08' S$, $58^{\circ} 09' W$. 79 m. Gear OTC, N 7-T, N 4-T. Bottom: sand and shell.

St. WS 90. 7. iv. 27. 13 miles N 83° E of Cape Virgins Light, Argentine Republic. From $52^{\circ} 18' S$, $68^{\circ} 00' W$ to $52^{\circ} 19' 30'' S$, $67^{\circ} 57' W$. 82-81 m. Gear OTC. Bottom: fine dark sand.

St. WS 177. 7. iii. 28. $54^{\circ} 58' S$, $35^{\circ} 00' W$. 97-0 m. Gear N 100 B.

St. WS 200. 21. iv. 28. $59^{\circ} 05' S$, $46^{\circ} 32' W$. 93-0 m. Gear N 100 B.

St. WS 211. 29. v. 28. $50^{\circ} 17' S$, $60^{\circ} 06' W$. 161-174 m. Gear N 4-T, NCS-T. Bottom: green sand.

St. WS 212. 30. v. 28. $49^{\circ} 22' S$, $60^{\circ} 10' W$. 242-249 m. Gear N 4-T, NCS-T. Bottom: green sand, mud and pebbles.

St. WS 213. 30. v. 28. $49^{\circ} 22' S$, $60^{\circ} 10' W$. 249-239 m. Gear NCS-T. Bottom: green sand, mud and pebbles.

St. WS 214. 31. v. 28. $48^{\circ} 25' S$, $60^{\circ} 40' W$. 208-219 m. Gear NCS-T, DC. Bottom: fine dark sand.

St. WS 215. 31. v. 28. $47^{\circ} 37' S$, $60^{\circ} 50' W$. 219-146 m. Gear DC, NCS-T. Bottom: fine green sand.

St. WS 216. 1. vi. 28. $47^{\circ} 37' S$, $60^{\circ} 50' W$. 219-133 m. Gear N 7-T. Bottom: fine sand.

St. WS 219. 3. vi. 28. $47^{\circ} 06' S$, $62^{\circ} 12' W$. 116-114 m. Gear NCS-T. Bottom: dark sand.

St. WS 220. 3. vi. 28. $47^{\circ} 56' S$, $62^{\circ} 38' W$. 108-104 m. Gear NCS-T. Bottom: brown sand.

St. WS 221. 4. vi. 28. $48^{\circ} 23' S$, $65^{\circ} 10' W$. 76-91 m. Gear OTC. Bottom: brown sand, mud, pebbles, large stones and shell.

St. WS 223. 8. vi. 28. $49^{\circ} 13' S$, $64^{\circ} 52' W$. 114-114 m. Gear OTC. Bottom: coarse brown sand and shell.

St. WS 225. 9. vi. 28. $50^{\circ} 20' S$, $62^{\circ} 30' W$. 162-161 m. Gear OTC. Bottom: green sand, shell and pebbles.

St. WS 226. 10. vi. 28. $49^{\circ} 20' S$, $62^{\circ} 30' W$. 144-152 m. Gear NCS-T. Bottom: green sand.

St. WS 228. 30. vi. 28. $50^{\circ} 50' S$, $56^{\circ} 58' W$. 229-236 m. Gear OTC, N 4-T, NCS-T. Bottom: shell and coarse white sand.

St. WS 229. 1. vii. 28. $50^{\circ} 35' S$, $57^{\circ} 20' W$. 210-271 m. Gear N 4-T. Bottom: fine green sand.

St. WS 231. 4. vii. 28. $50^{\circ} 10' S$, $58^{\circ} 42' W$. 167-159 m. Gear N 4-T, NCS-T. Bottom: fine green sand.

St. WS 234. 5. vii. 28. $48^{\circ} 52' S$, $60^{\circ} 25' W$. 195-207 m. Gear OTC, NCS-T. Bottom: fine green sand.

St. WS 236. 6. vii. 28. $46^{\circ} 55' S$, $60^{\circ} 40' W$. 272-300 m. Gear DC, N 4-T, NCS-T. Bottom: dark green sand and mud.

St. WS 237. 7. vii. 28. $46^{\circ} 00' S$, $60^{\circ} 05' W$. 150-256 m. Gear N 4-T, NCS-T. Bottom: coarse brown sand and shell.

St. WS 239. 15. vii. 28. $51^{\circ} 10' S$, $62^{\circ} 10' W$. 196-193 m. Gear OTC. Bottom: coarse dark sand.

St. WS 243. 17. vii. 28. $51^{\circ} 06' S$, $64^{\circ} 30' W$. 144-141 m. Gear OTC, N 4-T. Bottom: coarse dark sand.

St. WS 244. 18. vii. 28. $52^{\circ} 00' S$, $62^{\circ} 40' W$. 253-247 m. Gear N 7-T. Bottom: fine dark sand and mud.

- St. WS 245. 18. vii. 28. $52^{\circ} 36' S$, $63^{\circ} 40' W$. 304-290 m. Gear N 4-T. Bottom: dark green sand, madrepore, pebbles and shell.
- St. WS 246. 19. vii. 28. $52^{\circ} 25' S$, $61^{\circ} 00' W$. 267-208 m. Gear OTC, N 7-T, N 4-T. Bottom: coarse green sand and pebbles.
- St. WS 247. 19. vii. 28. $52^{\circ} 40' S$, $60^{\circ} 05' W$. 172 m. Gear DLH. Bottom: rock.
- St. WS 248. 20. vii. 28. $52^{\circ} 40' S$, $58^{\circ} 30' W$. 210-242 m. Gear OTC. Bottom: fine green sand, pebbles and shell.
- St. WS 249. 20. vii. 28. $52^{\circ} 10' S$, $57^{\circ} 30' W$. 166 m. Gear DLH. Bottom: fine brown-green sand, shell and stones.
- St. WS 351. 11. i. 29. $54^{\circ} 21' 30'' S$, $34^{\circ} 59' W$. 750-500 m. Gear N 70 V.
- St. WS 408. 26. ii. 29. $53^{\circ} 50' S$, $62^{\circ} 10' W$. 112-0 m. Gear N 70 B.
- St. WS 411. 14. iii. 29. $52^{\circ} 08' S$, $52^{\circ} 35' W$. 100-0 m. Gear N 70 B.
- St. WS 536. 24. i. 31. $56^{\circ} 28' S$, $27^{\circ} 21' W$. 102-0 m. Gear N 100 B.
- St. WS 537. 25-26. i. 31. $56^{\circ} 10' S$, $25^{\circ} 35' W$. 67-0 m. Gear N 70 B.
- St. WS 541. 28. i. 31. $57^{\circ} 51\frac{1}{2}' S$, $19^{\circ} 51\frac{1}{2}' W$. 102-0 m. Gear N 100 B.
- St. WS 544. 29. i. 31. $60^{\circ} 59' S$, $17^{\circ} 50' W$. 146-0 m. Gear N 100 B.
- St. WS 545. 30. i. 31. $61^{\circ} 51' S$, $17^{\circ} 15' W$. 124-0 m. Gear N 100 B.
- St. WS 547. 30. i. 31. $62^{\circ} 40' S$, $17^{\circ} 02' W$. 154-0 m. Gear N 100 B.
- St. WS 548. 31. i. 31. $64^{\circ} 07' S$, $15^{\circ} 38' W$. 106-0 m. Gear N 100 B.
- St. WS 549. 31. i. 31. $65^{\circ} 17' S$, $15^{\circ} 33' W$. 128-0 m. Gear N 100 B.
- St. WS 550. 1. ii. 31. $66^{\circ} 51\frac{1}{2}' S$, $15^{\circ} 24' W$. 121-0 m. Gear N 70 B.
- St. WS 551. 1. ii. 31. $68^{\circ} 17\frac{1}{2}' S$, $14^{\circ} 26\frac{1}{2}' W$. 121-0 m. Gear N 70 B, N 100 B.
- St. WS 552. 2. ii. 31. $68^{\circ} 53' S$, $13^{\circ} 03' W$ to $68^{\circ} 50' S$, $13^{\circ} 03' W$. (Depth not recorded on label.) Gear N 100 B.
- St. WS 555. 6. ii. 31. $60^{\circ} 27' S$, $19^{\circ} 36' W$. 174-0 m. Gear N 100 B.
- St. WS 564. 21. ii. 31. Moltke Harbour, South Georgia. Shore collection.
- St. WS 576. 17. iv. 31. $51^{\circ} 35' S$, $57^{\circ} 49' 45'' W$. 34-24 m. Gear OTC. Bottom: sand.
- St. WS 582. 30. iv. 31. $53^{\circ} 42' 30'' S$, $70^{\circ} 55' W$. 12 m. Gear NH.
- St. WS 583. 2. v. 31. $53^{\circ} 39' S$, $70^{\circ} 54' 30'' W$. 14-78 m. Gear BTS. Bottom: sand and stones.
- St. WS 648. 22. vi. 31. $15^{\circ} 19' 30'' S$, $75^{\circ} 13' W$. 111-0 m. Gear N 100 B.
- St. WS 742. 5. ix. 31. $38^{\circ} 22' S$, $73^{\circ} 41' W$. 35 m. Gear BTS.
- St. WS 748. 16. ix. 31. $53^{\circ} 41' 30'' S$, $70^{\circ} 55' W$. 300 (-0) m. Gear BNR.
- St. WS 750. 18. ix. 31. $52^{\circ} 12' S$, $67^{\circ} 19' W$. 95 (-0) m. Gear BNR.
- St. WS 752. 19-20. ix. 31. $51^{\circ} 20' S$, $63^{\circ} 17' W$. 160 (-0) m. Gear BNR.
- St. WS 755. 21. ix. 31. $51^{\circ} 39' S$, $57^{\circ} 39' W$. 75 (-0) m. Gear BNR.
- St. WS 756. 10. x. 31. $50^{\circ} 54' 39'' S$, $59^{\circ} 58' W$. 118-90 m. Gear OTC. Bottom: gravel, mud and sand.
- St. WS 758. 12. x. 31. $48^{\circ} 31' S$, $61^{\circ} 19' W$. 112 (-0) m. Gear BNR. Bottom: rock.
- St. WS 762. 16. x. 31. $43^{\circ} 50' S$, $65^{\circ} 01' 51'' W$. 67-65 m. Gear OTC, N 7-T. Bottom: sand and mud
- St. WS 763. 16. x. 31. $44^{\circ} 14' S$, $63^{\circ} 28' W$. 87-82 m. Gear OTC. Bottom: mud and sand.
- St. WS 764. 17. x. 31. $44^{\circ} 38' 15'' S$, $61^{\circ} 58' 30'' W$ to $44^{\circ} 38' 45'' S$, $61^{\circ} 49' 30'' W$. 106 m., gear DC; 110-104 m., gear OTC. Bottom: fine green sand.
- St. WS 765. 17. x. 31. $45^{\circ} 07' S$, $60^{\circ} 28' 15'' W$. 113-118 m. Gear OTC. Bottom: mud and sand.

St. WS 766. 18-19. x. 31. $45^{\circ} 13' S$, $59^{\circ} 56' 30'' W$. 545 m. Gear NCS-T. Bottom: fine dark green sand.

St. WS 770. 21. x. 31. $46^{\circ} 03' S$, $66^{\circ} 34' W$. 95 (-0) m. Gear BNR. Bottom: brown-grey clay.

St. WS 771. 29. x. 31. $42^{\circ} 41' 45'' S$, $60^{\circ} 31' W$. 90 m. Gear DC, NCS-T, N 7-T. Bottom: dark green sand.

St. WS 772. 30. x. 31. $45^{\circ} 13' 22'' S$, $60^{\circ} 00' 15'' W$. 309-153 m. Gear NCS-T, N 7-T, N 4-T.

St. WS 773. 31. x. 31. $47^{\circ} 28' S$, $60^{\circ} 51' W$. 291 m., gear DC; 291-298 m., gear OTC. Bottom: green sand and mud.

St. WS 774. 1. xi. 31. $47^{\circ} 08' S$, $62^{\circ} 02' W$. 139 m. Gear DC. Bottom: dark green sand and mud.

St. WS 776. 3. xi. 31. $46^{\circ} 18' 15'' S$, $65^{\circ} 02' 15'' W$. 110-99 m. Gear OTC, DC. Bottom: green mud and sand.

St. WS 777. 3. xi. 31. $45^{\circ} 56' S$, $66^{\circ} 24' W$. 98-99 m. Gear OTC. Bottom: mud and sand.

St. WS 781. 6. xi. 31. $50^{\circ} 30' S$, $58^{\circ} 50' W$. 148 m. Gear NCS-T, OTC. Bottom: dark green sand and mud.

St. WS 782. 4. xii. 31. $50^{\circ} 29' 15'' S$, $58^{\circ} 23' 45'' W$. 141 m. Gear DC. $50^{\circ} 27' 45'' S$, $58^{\circ} 29' 45'' W$. 141-146 m. Gear OTC. Bottom: green sand.

St. WS 783. 5. xii. 31. $50^{\circ} 02' 45'' S$, $60^{\circ} 10' W$. 155 m. Gear DC. $50^{\circ} 02' 45'' S$, $60^{\circ} 14' W$. 155-159 m. Gear OTC. Bottom: rock, mud and sand.

St. WS 784. 5. xii. 31. $49^{\circ} 47' 45'' S$, $61^{\circ} 05' W$. 170-164 m. Gear N 7-T. Bottom: dark green sand.

St. WS 785. 6. xii. 31. $49^{\circ} 23' 45'' S$, $62^{\circ} 41' 15'' W$. 150-146 m. Gear OTC, N 7-T. Bottom: dark green sand.

St. WS 786. 7. xii. 31. $49^{\circ} 07' S$, $63^{\circ} 55' W$. 133 m. Gear DC. Bottom: dark sand.

St. WS 787. 7. xii. 31. $48^{\circ} 44' S$, $65^{\circ} 24' 30'' W$. 106-110 m. Gear OTC. Bottom: coarse brown sand.

St. WS 788. 13. xii. 31. $45^{\circ} 07' S$, $64^{\circ} 54' W$. 82-88 m. Gear OTC. Bottom: grey mud and sand.

St. WS 795. 18. xii. 31. $46^{\circ} 14' S$, $60^{\circ} 24' W$. 157-161 m. Gear OTC. Bottom: sand.

St. WS 796. 19. xii. 31. $47^{\circ} 53' 30'' S$, $63^{\circ} 32' 30'' W$. 106-113 m. Gear OTC. Bottom: coarse brown sand.

St. WS 797. 19. xii. 31. $47^{\circ} 47' 43'' S$, $64^{\circ} 07' 30'' W$. 111-114 m. Gear OTC. Bottom: stones.

St. WS 798. 20. xii. 31. $47^{\circ} 32' S$, $65^{\circ} 02' W$. 49-66 m. Gear NCS-T. Bottom: pebbles, shell and sand.

St. WS 801. 22. xii. 31. $48^{\circ} 26' 15'' S$, $61^{\circ} 28' W$. 165 m. Gear OTC, NCS-T. Bottom: dark sand.

St. WS 803. 5. i. 32. $50^{\circ} 33' 45'' S$, $62^{\circ} 05' 30'' W$. 174-186 m. Gear OTC.

St. WS 804. 6. i. 32. $50^{\circ} 22' 45'' S$, $62^{\circ} 49' W$. 150-143 m. Gear OTC. $50^{\circ} 21' 15'' S$, $62^{\circ} 53' W$. 143-150 m. Gear N 7-T. Bottom: gravel and sand.

St. WS 805. 6. i. 32. $50^{\circ} 10' 15'' S$, $63^{\circ} 29' W$. 148 m. Gear NCS-T. Bottom: coarse dark sand.

St. WS 807. 7. i. 32. $49^{\circ} 50' 30'' S$, $65^{\circ} 03' W$. 125-126 m. Gear OTC. Bottom: dark sand.

St. WS 808. 8. i. 32. $49^{\circ} 40' 15'' S$, $65^{\circ} 42' W$. 110-107 m. Gear NCS-T. Bottom: brown-green sand.

St. WS 809. 8. i. 32. $49^{\circ} 28' 15''$ S, $66^{\circ} 29'$ W. 107-104 m. Gear NCS-T. Bottom: brown sand.

St. WS 811. 12. i. 32. $51^{\circ} 24' 30''$ S, $67^{\circ} 53'$ W. 96-98 m. Gear OTC. Bottom: sand and stones.

St. WS 813. 13. i. 32. $51^{\circ} 35' 15''$ S, $67^{\circ} 16' 15''$ W. 106-102 m. Gear OTC. Bottom: dark sand.

St. WS 814. 13. i. 32. $51^{\circ} 45' 15''$ S, $66^{\circ} 40'$ W. 111-118 m. Gear OTC. Bottom: coarse dark sand.

St. WS 824. 19. i. 32. $52^{\circ} 29' 15''$ S, $58^{\circ} 27' 15''$ W. 146-137 m. Gear OTC. Bottom: green sand and shell.

St. WS 825. 28-29. i. 32. $50^{\circ} 50'$ S, $57^{\circ} 15' 15''$ W. 135-144 m. Gear OTC. Bottom: sand, mud and shells.

St. WS 832. 1. ii. 32. $50^{\circ} 49'$ S, $67^{\circ} 55'$ W. 75-0 m. Gear N 70 B.

St. WS 834. 2. ii. 32. $52^{\circ} 57' 45''$ S, $68^{\circ} 08' 15''$ W. 27-38 m. Gear OTC, NCS-T. Bottom: dark brown and grey stones, mud and sand.

St. WS 836. 3. ii. 32. $53^{\circ} 05' 30''$ S, $67^{\circ} 38'$ W. 64 m. Gear BTS.

St. WS 837. 3. ii. 32. $52^{\circ} 49' 15''$ S, $66^{\circ} 28'$ W. 98-102 m. Gear OTC, N 7-T, N 4-T, NCS-T. Bottom: coarse dark green sand and pebbles.

St. WS 839. 5. ii. 32. $53^{\circ} 30' 15''$ S, $63^{\circ} 29'$ W. 403-434 m. Gear N 4-T. Bottom: fine sand and mud.

St. WS 840. 6. ii. 32. $53^{\circ} 52'$ S, $61^{\circ} 49' 15''$ W. 368-463 m. Gear OTC, N 4-T. Bottom: green-grey sand.

St. WS 841. 6. ii. 32. $54^{\circ} 11' 45''$ S, $60^{\circ} 21' 30''$ W. 109-120 m. Gear OTC. Bottom: stones and shell.

St. WS 847. 9. ii. 32. $50^{\circ} 15' 45''$ S, $67^{\circ} 57'$ W. 51-56 m. Gear OTC. $50^{\circ} 18' 45''$ S, $67^{\circ} 44' 00''$ W. 56-84 m. Gear NCS-T.

St. WS 848. 10. ii. 32. $50^{\circ} 37' 30''$ S, $66^{\circ} 24'$ W. 115-117 m. Gear OTC. Bottom: dark green sand.

St. WS 849. 10. ii. 32. $50^{\circ} 56' 45''$ S, $64^{\circ} 58'$ W. 137-137 m. Gear OTC. Bottom: dark sand.

St. WS 851. 11. ii. 32. $51^{\circ} 39' 30''$ S, $62^{\circ} 01' 15''$ W. 221-197 m. Gear OTC, N 7-T. Bottom: stones.

St. WS 852. 21. iii. 32. $44^{\circ} 12' 30''$ S, $64^{\circ} 13'$ W. 86-88 m. Gear BTS.

St. WS 856. 23. iii. 32. $46^{\circ} 35'$ S, $64^{\circ} 11'$ W. 104-104 m. Gear BTS.

St. WS 863. 28. iii. 32. $49^{\circ} 05'$ S, $64^{\circ} 09'$ W. 121-117 m. Gear BTS.

St. WS 866. 29. iii. 32. $50^{\circ} 37' 45''$ S, $64^{\circ} 15'$ W. 137-144 m. Gear OTC.

St. WS 867. 30. iii. 32. $51^{\circ} 10'$ S, $64^{\circ} 15' 30''$ W. 150-147 m. Gear BTS.

St. WS 869. 31. iii. 32. $52^{\circ} 15' 30''$ S, $64^{\circ} 13' 45''$ W. 187 (-0) m. Gear BNR.

St. WS 871. 1. iv. 32. $53^{\circ} 16'$ S, $64^{\circ} 12'$ W. 336-341 m. Gear BTS.

St. WS 877. 4. iv. 32. $52^{\circ} 35' 30''$ S, $61^{\circ} 04'$ W. 350 (-0) m. Gear BNR.

MARINE BIOLOGICAL STATION, SOUTH GEORGIA

St. MS 15. 17. ii. 25. East Cumberland Bay, South Georgia, 3 miles SW of Merton Rock to $2\frac{1}{4}$ miles NNW of Dartmouth Point. 110 m. Gear DS.

St. MS 62. 24. ii. 26. East Cumberland Bay, South Georgia, $\frac{1}{2}$ cable E to $3\frac{3}{4}$ cables S of Hobart Rock. 31 m. Gear BTS.

St. MS 64. 24. ii. 26. 1.8 miles SE × S of King Edward Point Light, East Cumberland Bay, South Georgia. 7-15 m. Gear DS.

St. MS 65. 28. ii. 26. East Cumberland Bay, South Georgia. 1.6 miles SE of Hobart Rock to 1 cable N of Dartmouth Point. 39 m. Gear BTS.

St. MS 68. 2. iii. 26. East Cumberland Bay, South Georgia. 1.7 miles S $\frac{1}{2}$ E to 8 $\frac{1}{2}$ cables SE × E of Sappho Point. 220-247 m. Gear NRL.

LIST OF SPECIES

Family AMPHINOMIDAE

Euphosyne arctia, Johnson
Euphosyne maorica, Augener

Chloeia inermis, Quatrefages

Family APHRODITIDAE

Aphrodite longirostris, Kinberg
Aphrodite talpa, Quatrefages

Laetmatonice producta, Grube

Family POLYNOIDAE

Harmothoë magellanica (McIntosh)

Eulagisca corrientis, McIntosh

Harmothoë exanthema (Grube)

Hermadion magalhaensi, Kinberg

Harmothoë exanthema, Grube, var. ***bergströmi***, var.nov.

Polynoë antarctica, Kinberg

Harmothoë brevipalpa, Bergström

Lepidametria gigas (Johnson)

Harmothoë brevipalpa, Bergström, var. ***ciliata***, var.nov.

Hololepida australis, n.sp.

Harmothoë benthophila, Ehlers

Halosydna patagonica, Kinberg

Harmothoë ernesti, Augener

Antinoë antarctica (Bergström)

Harmothoë spinosa, Kinberg

Euphionella patagonica, gen. et sp.nov.

Harmothoë spinosa, Kinberg, var. *lagiscoides*, Willey

Macellicephala mirabilis, McIntosh

Harmothoë (Barrukia) cristata (Willey)

Eucranta mollis (McIntosh)

Eunoë anderssoni (Bergström)

Eucranta villosa, Malmgren, var. ***notialis***, var. nov.

Polyeunoa laevis, McIntosh

Family SIGALIONIDAE

Sigalion ovigerum, Monro

Sthenelais limicola (Ehlers), var. ***novae-zealandiae*** var.nov.

Leanira quatrefagesi, Kinberg

Psammolyce semiglabra, n.sp.

Family PHYLLODOCIDAE

Phyllodoce longipes, Kinberg

Eteone sculpta, Ehlers

Phyllodoce patagonica (Kinberg)

Lopadorhynchus krohnii (Claparède), var. *simplex*, Monro

Phyllodoce madeirensis, Langerhans

Lopadorhynchus uncinatus, Fauvel

Phyllodoce bowersi, Benham

Pelagobia longicirrata, Greeff

Eulalia magalhaensis, Kinberg

Mystides notialis, Ehlers

Eulalia picta, Kinberg

Genetyllis polyphylla (Ehlers)

Family ALCIOPIDAE

Alciopa cantrainii (Delle Chiaje)

Greeffia oahuensis, McIntosh

Vanadis antarctica (McIntosh)

Callizona angelini (Kinberg)

Vanadis formosa, Claparède

Callizonella bougraini (Gravier)

Vanadis crystallina, Greeff

Torrea candida (Delle Chiaje)

Vanadis violacea, Apstein

Family TOMOPTERIDAE

Tomopteris carpenteri, Quatrefages

Tomopteris cavalli, Rosa

Tomopteris planktonis, Apstein

Tomopteris septentrionalis, Quatrefages

Family TYPHLOSCOLECIDAE

Sagitella lobifera, Ehlers*Travisiopsis benhami*, n.sp.

Family SYLLIDAE

Syllis proluxa, Ehlers*Pionosyllis nutrix*, n.sp.*Syllis sclerolaema*, Ehlers*Eusyllis kerguelensis*, McIntosh*Syllis brachychaeta*, Schmarda*Amblyosyllis granosa*, Ehlers*Trypanosyllis gigantea* (McIntosh)*Autolytus charcoti*, Gravier*Trypanosyllis taeniaeformis* (Haswell)*Autolytus simplex*, Ehlers*Pionosyllis comosa*, Gravier*Polybostrichus* sp.

Family NEREIDAE

Nereis (Eumereis) hardyi, Monro*Nereis eugeniae* (Kinberg)*Nereis cricognatha*, Ehlers*Nereis kerguelensis*, McIntosh*Nereis callaoana*, Grube*Platynereis magalhaensis*, Kinberg*Nereis jacksoni*, Kinberg*Leptonereis loxechini* (Kinberg)

Family NEPHTHYDIDAE

Nephtlys dibranchis, Grube*Nephtlys macrura*, Schmarda*Nephtlys serratifolia*, Ehlers*Nephtlys squamosa*, Ehlers

Family GLYCERIDAE

Glycera capitata, Oersted*Glycinde armata* (Kinberg)*Goniada eximia*, Ehlers

Family SPHAERODORIDAE

Ephesia antarctica, McIntosh

Family EUNICIDAE

Eunice frauenfeldi, Grube*Onuphis aucklandensis*, Augener*Eunice pennata* (O. F. Müller)*Hyalinoccia tubicola* (O. F. Müller)*Eunice australis*, Quatrefages*Lumbrinereis magalhaensis*, Kinberg*Diopatra punctifera*, Ehlers*Lumbrinereis heteropoda*, Marenzeller*Diopatra* sp.*Lumbrinereis cingulata*, Ehlers*Diopatra napolitana*, Delle Chiaje*Lumbrinereis near impatiens*, Claparède*Rhamphobrachium ehlersi*, Monro*Augeneria tentaculata*, Monro*Onuphis conchylega*, Sars*Ninoë falklandica*, n.sp.*Onuphis iridescens* (Johnson)*Drilonereis filum* (Claparède)*Onuphis dorsalis* (Ehlers)

Family ARICIIDAE

Scoloplos marginatus (Ehlers)*Haploscoloplos kerguelensis* (McIntosh)

Family CIRRATULIDAE

Cirratulus cirratus (O. F. Müller)*Cirratulus filiformis*, Keferstein*Cirratulus antarcticus*, Monro

Family SPIONIDAE

Polydora natrix, Söderström

Family CHAETOPTERIDAE

Chaetopterus variopedatus (Renier)

Family CHLORHAEMIDAE

Stylarioides kerguelarum (Grube)*Flabelligera affinis*, M. Sars*Stylarioides swakopianus*, Augener

Family OPHELIIDAE

- Travisia kerguelensis*, McIntosh
Ammotrypane scaphigera, Ehlers
Ammotrypane breviata, Ehlers
Ophelia bipartita, n.sp.

Family MALDANIDAE

- Clymene (Isocirrus) yungi* (Gravier)
Axiothella antarctica, Monro
Maldane sarsi, Malmgren, var. *antarctica*, Arwidsson
Lumbriclymenella robusta, Arwidsson
Asychis amphiglypta (Ehlers)

Family SABELLARIIDAE

- Sabellaria (Phragmatopoma) antipoda*, Augener
Sabellaria (Phragmatopoma) moerchi (Kinberg)
Idanthyrsus armatus, Kinberg

Family AMPHICTENIDAE

- Pectinaria ehlersi*, Hesse

Family AMPHARETIDAE

- Ampharete kerguelensis*, McIntosh
Amage sculpta, Ehlers
Phyllocomus crocea, Grube
Neosabellides elongatus (Ehlers)
Amphicteis philippinarum, Grube
Amphicteis gunneri (Sars), var. *antarctica*, Hesse

Family TERESELLIDAE

- Amphitrite kerguelensis*, McIntosh
Amphitrite affinis, Malmgren, var. *antarctica*,
 var.nov.
Leaena abranchiata, Malmgren, var. *antarctica*,
 McIntosh
Leaena collaris, Hesse
Nicolea chilensis (Schmarda)
Polymnia nebulosa (Montagu)
Neoleprea streptochaeta (Ehlers)
Loimia medusa, Savigny
Pista mirabilis, McIntosh
Thelepus setosus (Quatrefages)
Thelepus cincinnatus (Fabricius)
Streblosoma bairdi (Malmgren), var. *antarctica*,
 var.nov.
Polycirrus kerguelensis (McIntosh)
Polycirrus hesslei, Monro
Hauchiella tribullata (McIntosh)
Octobranthus antarcticus, n.sp.

Family SABELLIDAE

- Sabella oatesiana*, Benham
Potamilla antarctica (Kinberg)
Oridia limbata (Ehlers)
Chone duner, Malmgren
Euchone pallida, Ehlers

Family SERPULIDAE

- Serpula vermicularis*, Linnaeus
Vermiliopsis notialis, Monro
Spirobranchus latiscapus (Marenzeller)

INCERTAE SEDIS

- Loandalia aberrans***, gen. et sp.nov.

The total number of species, exclusive of a *Polybostrichus* and a *Diopatra* to which I have not given a name, is 159. There are two new genera, a Polynoid *Euphionella*, and *Loandalia*, a curious tropical West African form which I am unable to assign to any of the known families. The number of new species is eight and there are six new varieties.

GEOGRAPHICAL DISTRIBUTION BENTHIC SPECIES

Although the present collection was obtained from positions as widely separated as off Peru, West Africa and New Zealand, much the greater part of the benthic material came from two areas, the South Georgia area which for the present purposes includes South Georgia, South Sandwich Islands, South Orkneys, South Shetlands, Palmer Archipelago, Bellingshausen Sea, and the Falkland Islands area which includes the Falkland Islands and between the Falkland Islands and South America.

The colder water Polychaete fauna of the South Georgia area is not the same as that round the Falklands, although there is considerable overlapping.

The benthic species fall into the following groups according to the areas in which they were found:

I. SOUTH GEORGIA, SOUTH SANDWICH ISLANDS, BELLINGSHAUSEN SEA

<i>Laetmatonice producta</i>	<i>Cirratulus antarcticus</i>
<i>Harmothoë magellanica</i>	<i>Cirratulus filiformis</i>
<i>Harmothoë spinosa</i>	<i>Polydora natrix</i>
<i>Harmothoë (Barrukia) cristata</i>	<i>Stylarioides kerguelarum</i>
<i>Eunoë anderssoni</i>	<i>Ammotrypane breviata</i>
<i>Antinoë antarctica</i>	<i>Clymene (Isocirrus) yungi</i>
<i>Macellicephala mirabilis</i>	<i>Axiothella antarctica</i>
<i>Eucranta mollis</i>	<i>Maldane sarsi</i> var. <i>antarctica</i>
<i>Polyeunoa laevis</i>	<i>Asychis amphiglypta</i>
<i>Phyllodoce patagonica</i>	<i>Ampharete kerguelensis</i>
<i>Genetyllis polyphylla</i>	<i>Amage sculpta</i>
<i>Syllis brachychaeta</i>	<i>Phyllocomus crocea</i>
<i>Pionosyllis nutrix</i>	<i>Neosabellides elongatus</i>
<i>Eusyllis kerguelensis</i>	<i>Amphicteis gunneri</i> , var. <i>antarctica</i>
<i>Amblyosyllis granosa</i>	<i>Amphitrite kerguelensis</i>
<i>Autolytus charcoti</i>	<i>Leaena abranchiata</i> , var. <i>antarctica</i>
<i>Nereis kerguelensis</i>	<i>Leaena collaris</i>
<i>Leptonereis loxechini</i>	<i>Pista mirabilis</i>
<i>Nephthys macrura</i>	<i>Thelepus cincinnatus</i>
<i>Glycera capitata</i>	<i>Streblosoma bairdi</i> var. <i>antarctica</i>
<i>Eunice pennata</i>	<i>Polycirrus kerguelensis</i>
<i>Diopatra</i> sp.	<i>Hauchiella tribullata</i>
<i>Rhamphobrachiium ehlersi</i>	<i>Octobranthus antarcticus</i>
<i>Onuphis conchylega</i>	<i>Potamilla antarctica</i>
<i>Lumbrinereis magalhaensis</i>	<i>Oridia limbata</i>
<i>Augeneria tentaculata</i>	<i>Euchone pallida</i>
<i>Scoloplos marginatus</i>	<i>Serpula vermicularis</i>
<i>Haploscoloplos kerguelensis</i>	<i>Vermiliopsis notialis</i>
<i>Cirratulus cirratus</i>	

The following additional species were recorded from this area in my previous (1930)

Discovery Report:

<i>Paramphinome australis</i>	<i>Lumbrinereis antarctica</i>
<i>Euphrosyne arctica</i>	<i>Scoloplos mawsoni</i>
<i>Aphrodite alta</i>	<i>Pygospio dubia</i>
<i>Hermadion ferox</i>	<i>Nerine</i> sp.
<i>Hermadion magalhaensi</i>	<i>Paraonis gracilis</i>
<i>Eulagisca corrientis</i>	<i>Phyllochaetopterus</i> sp.
<i>Eunoë opalina</i>	<i>Tharyx epitoca</i>
<i>Harmothoë crosetensis</i>	<i>Tharyx</i> sp.
<i>Harmothoë kerguelensis</i>	<i>Flabelligera affinis</i>
<i>Harmothoë curviseta</i>	<i>Flabelligera pennigera</i>
<i>Antinoë setobarba</i>	<i>Flabelligera mundata</i>
<i>Eteone sculpta</i>	<i>Brada villosa</i>
<i>Eteone aurantiaca</i>	<i>Brada mammillata</i>
<i>Eteone rubella</i>	<i>Scalibregma inflatum</i>
<i>Phyllodoce bowersi</i>	<i>Capitella capitata</i>
<i>Phyllodoce longipes</i>	<i>Notomastus latericeus</i>
<i>Austrophyllum charcoti</i>	<i>Notomastus lineatus?</i>
<i>Eulalia magalhaensis</i>	<i>Travisia kerguelensis</i>
<i>Eulalia anomalochaeta</i>	<i>Travisia kerguelensis</i> , var. <i>gravieri</i>
<i>Eulalia picta</i>	<i>Kesun abyssorum</i>
<i>Pionosyllis comosa</i>	<i>Rhodine intermedia</i>
<i>Pionosyllis maxima</i>	<i>Lumbriclymenella robusta</i>
<i>Trypanosyllis gigantea</i>	<i>Clymene kerguelensis</i>
<i>Autolytus gibber</i>	<i>Nicomache</i> sp.
<i>Grubea clavata</i>	<i>Sternaspis scutata</i>
<i>Syllis proluxa</i>	<i>Melinna cristata</i>
<i>Syllis brachycola</i>	<i>Terebella ehlersi</i>
<i>Nereis typhla</i>	<i>Pista corrientis</i>
<i>Platynereis magalhaensis</i>	<i>Neoleprea streptochaeta</i>
<i>Ephesia antarctica</i>	<i>Lanicides vayssieri</i>
<i>Onuphis notialis</i>	<i>Artacama proboscidea</i>
<i>Thelepus setosus</i>	<i>Terebellides minutus</i>
<i>Lysilla loveni</i> , var. <i>macintoshi</i>	<i>Terebellides longicaudatus</i>

The total number of benthic species recorded by me from the South Georgia area is 123.

II. OFF THE FALKLAND ISLANDS AND BETWEEN THE FALKLAND ISLANDS AND SOUTH AMERICA

<i>Euphrosyne arctica</i>	<i>Hololepida australis</i>
<i>Aphrodite longirostris</i>	<i>Halosydna patagonica</i>
<i>Harmothoë magellanica</i>	<i>Antinoë antarctica</i>
<i>Harmothoë brevipalpa</i>	<i>Euphionella patagonica</i>
<i>Harmothoë ernesti</i>	<i>Eucranta mollis</i>
<i>Harmothoë exanthema</i>	<i>Eucranta villosa</i> var. <i>notialis</i>
<i>Harmothoë spinosa</i>	<i>Polyeunoa laevis</i>
<i>Harmothoë spinosa</i> var. <i>lagiscoides</i>	<i>Leanira quatrefagesi</i>
<i>Eulagisca corrientis</i>	<i>Phyllodoce longipes</i>
<i>Hermadion magalhaensi</i>	<i>Phyllodoce patagonica</i>
<i>Polynoë antarctica</i>	<i>Phyllodoce bowersi</i>

<i>Eulalia magalhaensis</i>	<i>Lumbrinereis</i> near <i>impatiens</i>
<i>Eulalia picta</i>	<i>Augeneria tentaculata</i>
<i>Eteone sculpta</i>	<i>Ninoë falklandica</i>
<i>Mystides notialis</i>	<i>Drilonereis filum</i>
<i>Syllis proluxa</i>	<i>Haploscoloplos kerguelensis</i>
<i>Syllis sclerolaema</i>	<i>Cirratulus cirratus</i>
<i>Trypanosyllis gigantea</i>	<i>Cirratulus antarcticus</i>
<i>Eusyllis kerguelensis</i>	<i>Chaetopterus variopedatus</i>
<i>Autolytus charcoti</i>	<i>Flabelligera affinis</i>
<i>Autolytus simplex</i>	<i>Travisia kerguelensis</i>
<i>Nereis hardyi</i>	<i>Ammotrypane scaphigera</i>
<i>Nereis eugeniae</i>	<i>Ammotrypane breviata</i>
<i>Nereis kerguelensis</i>	<i>Lumbriclymenella robusta</i>
<i>Platynereis magalhaensis</i>	<i>Asychis amphiglypta</i>
<i>Leptonereis loxechini</i>	<i>Sabellaria (Phragmatopoma) moerchi</i>
<i>Nephtys serratifolia</i>	<i>Idanthyrus armatus</i>
<i>Nephtys macrura</i>	<i>Pectinaria ehlersi</i>
<i>Nephtys squamosa</i>	<i>Phyllocomus crocea</i>
<i>Glycera capitata</i>	<i>Amphicteis gunneri</i> var. <i>antarctica</i>
<i>Goniada eximia</i>	<i>Amphitrite kerguelensis</i>
<i>Glycinde armata</i>	<i>Amphitrite affinis</i> var. <i>antarctica</i>
<i>Ephesia antarctica</i>	<i>Nicolea chilensis</i>
<i>Eunice frauenfeldi</i>	<i>Polymnia nebulosa</i>
<i>Eunice pennata</i>	<i>Pista mirabilis</i>
<i>Onuphis conchylega</i>	<i>Thelepus setosus</i>
<i>Onuphis iridescens</i>	<i>Thelepus cincinatus</i>
<i>Onuphis dorsalis</i>	<i>Sabella oatesiana</i>
<i>Lumbrinereis magalhaensis</i>	<i>Potamilla antarctica</i>
<i>Lumbrinereis cingulata</i>	<i>Serpula vermicularis</i>

The following additional benthic species were recorded from this area in my previous (1930) Discovery Report :

<i>Syllis brachycola</i>	<i>Pista corrientis</i>
<i>Syllis variegata</i>	<i>Neoleprea streptochaeta</i>
<i>Lumbrinereis tetraura</i>	<i>Polycirrus kerguelensis</i>
<i>Aricia michaelsoni</i>	<i>Polycirrus hamiltoni</i>
<i>Travisia olens</i>	<i>Polycirrus hesslei</i>
<i>Axiothella antarctica</i>	<i>Bispira magalhaensis</i>
<i>Clymenella minor</i>	<i>Salmacina dysteri</i> , var. <i>falklandica</i>

The total number of species recorded by me from this area is 94.

There are forty-nine species common to both the South Georgia and the Falkland Islands areas, and these constitute 40 per cent of the total number of the species from the South Georgia area and 52 per cent of the species from the Falkland Islands area

III. STRAIT OF MAGELLAN

<i>Harmothoë exanthema</i>	<i>Chaetopterus variopedatus</i>
<i>Harmothoë brevipalpa</i> , var. <i>ciliata</i>	<i>Amphitrite affinis</i> , var. <i>antarctica</i>
<i>Harmothoë spinosa</i>	<i>Neoleprea streptochaeta</i>
<i>Polynoë antarctica</i>	<i>Thelepus setosus</i>
<i>Lepidametria gigas</i>	<i>Polycirrus hesslei</i>
<i>Antinoë antarctica</i>	<i>Potamilla antarctica</i>
<i>Nereis eugeniae</i>	<i>Serpula vermicularis</i>

IV. BOUVET ISLAND

<i>Harmothoë spinosa</i>	<i>Lumbrinereis magalhaensis</i>
<i>Harmothoë spinosa</i> , var. <i>lagiscoides</i>	<i>Nephtys macrura</i>
<i>Harmothoë</i> (<i>Barrukia</i>) <i>cristata</i>	

V. GOUGH ISLAND

<i>Harmothoë brevipalpa</i>	<i>Nereis callaoana</i>
<i>Genetyllis polyphylla</i>	<i>Serpula vermicularis</i>

The following additional species were recorded from this area in my previous (1930) Discovery Report:

<i>Syllis brachycola</i>	<i>Serpula loveni</i>
<i>Chaetopterus variopedatus</i>	

VI. OFF WEST AND SOUTH-WEST AFRICA

<i>Diopatra punctifera</i>	<i>Stylarioides swakopianus</i>
<i>Diopatra neapolitana</i>	<i>Loandalia aberrans</i>
<i>Lumbrinereis heteropoda</i>	

The following additional species were recorded from this area in my previous (1930) Discovery Report:

<i>Hermodice carunculata</i> var. <i>didymobranchiata</i>	<i>Eunice longicirrata</i>
<i>Eurythoë complanata</i>	<i>Nicidion edentulum</i>
<i>Chloëia viridis</i>	<i>Lumbrinereis africana</i>
<i>Notopygos megalops</i>	<i>Lumbrinereis coccinea</i>
<i>Malmgrenia micropoides</i>	<i>Drilonereis filum</i>
<i>Antinoë epitoca</i>	<i>Staurocephalus rubrovittatus</i>
<i>Eupanthalis tubifex</i>	<i>Prionospio africana</i>
<i>Polyodontes mortenseni</i>	<i>Chaetopterus variopedatus</i>
<i>Euthalanessa dendrolepis</i>	<i>Phyllochaetopterus socialis</i>
<i>Leanira incisa</i>	<i>Cirratulus afer</i>
<i>Phyllodoce oculata</i>	<i>Pycnoderma congoense</i>
<i>Eulalia viridis</i>	<i>Maldane decorata</i>
<i>Leocrates diplognathus</i>	<i>Owenia fusiformis</i>
<i>Syllis variegata</i>	<i>Sternaspis scutata</i> , var. <i>africana</i>
<i>Ceratonereis vittata</i>	<i>Amphicteis gunneri</i> , var. <i>japonica</i>
<i>Nephtys lyrochaeta</i>	<i>Loimia montagui</i>
<i>Glycera tessellata</i>	<i>Hypsicomus torquatus</i>
<i>Goniada congoensis</i>	<i>Vermiliopsis glandigerus</i>
<i>Eunice siciliensis</i>	<i>Vermiliopsis richardi</i> , var. <i>fauveli</i>
<i>Eunice vittata</i>	

VII. OFF CHILE

<i>Ophelia bipartita</i>	<i>Thelepus setosus</i>
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VIII. OFF PERU

Chone duneri

IX. OFF NEW ZEALAND

<i>Euphrosyne maorica</i>	<i>Nereis cricognatha</i>
<i>Aphrodite talpa</i>	<i>Nereis jacksoni</i>
<i>Chloeia inermis</i>	<i>Nephtys dibranchis</i>
<i>Sigalion ovigerum</i>	<i>Eunice australis</i>
<i>Psammolyce semiglabra</i>	<i>Onuphis aucklandensis</i>
<i>Sthenelais limicola</i> , var. <i>novae-zealandiae</i>	<i>Hyalinoecia tubicola</i>
<i>Phyllodoce madeirensis</i>	<i>Sabellaria (Phragmatopoma) antipoda</i>
<i>Trypanosyllis taeniaeformis</i>	<i>Amphicteis philippinarum</i>
<i>Pionosyllis comosa</i>	<i>Nicolea chilensis</i>
<i>Amblyosyllis granosa</i>	<i>Spirobranchus latiscapus</i>

PELAGIC SPECIES

The following list gives a rough indication of the localities and the minimum and maximum depths at which the pelagic species were obtained:

- Harmothoë benthophila*. South of Cape Verde Island; 236-0 m.
Lopadorhynchus krohnii, var. *simplex*. South of Cape Verde Island; 236-0 m.
Lopadorhynchus uncinatus. East of La Plata; 246-0 m.
Pelagobia longicirrata. South Georgia; 174-0 m. and 1000-750 m.
Alciopa cantrainii. Off Pernambuco; 182-0 m.
Vanadis antarctica. South Georgia, Bouvet Island, Burdwood Bank; 0-5 m. and 1150-1400 m.
Vanadis formosa. Off Cape Verde Island, South Africa, St Paul Rocks, Rio Grande and La Plata; 101-0 m. and 242-0 m.
Vanadis crystallina. South of Pernambuco and off Bahia; 208-0 m. and 216-0 m.
Vanadis violacea. Off South Africa; 84-0 m. and 550-350 m.
Greeffia oahuensis. Off South Africa; 550-350 m.
Callizona angelini. Off South Africa; 1200-0 m.
Callizonella bongraini. Off South Georgia; 174-0 m.
Torrea candida. East of La Plata; 246-0 m.
Tomopteris carpenteri. Off South Georgia and Bouvet Island; 0-5 m. and 550-250 m.
Tomopteris planktonis. Off Pernambuco, north of Rio de Janeiro, east of La Plata; 182-0 m. and 249-0 m.
Tomopteris cavallii. North-east of Bouvet Island; 170-0 m.
Tomopteris septentrionalis. Off St Helena, South Africa, Bouvet Island, South Georgia, Bellingshausen Sea, north of Falkland Islands, off Pernambuco and La Plata; 73-0 m. and 265-150 m.
Sagitella lobifera. Off South Georgia and between South Georgia and Gough Island; 1150-1400 m. and 1500-1600 m.
Travisiopsis benhami. South Georgia and Bellingshausen Sea; 97-0 m. and 1000-750 m.
Loimia medusa juv. Off South Africa; 106-0 m. and 350-0 m.

SYSTEMATIC ACCOUNT

As in the descriptive part of this report I have made no diagnoses of the families, I give a key, which with slight modifications is that of Fauvel and Gravelly.

1. Head usually well developed. All segments of the body alike except those near the mouth and the terminal segment, or pygidium 2
- Body often divided into several distinct regions. Head small, either not markedly developed or profoundly modified. Feet almost always simple, the ventral rami being often in the form of transverse ridges (tori) or pinnules bearing hooks or uncini. Branchiae generally limited to a definite region 16

2. Elytra on a certain number of feet, the rest bearing cirri 3
 — No elytra 6
3. Compound bristles present SIGALIONIDAE
 — No compound bristles 4
4. Never more than one segment bearing a dorsal cirrus intercalated between two elytrigerous segments. Thread glands present in the feet POLYDONTIDAE
 — In the hinder region of the body either all segments carry dorsal cirri or there are at least two cirriferous segments intercalated between two elytrigerous segments (except in *Lepidastheniella*). No thread glands 5
5. Eyes stalked, rarely sessile. A single tentacle. Facial tubercle conspicuous APHRODITIDAE
 — Eyes sessile. Three tentacles (except in *Macellicephala*, *Bylgia* and *Iphione*). Facial tubercle absent or rudimentary POLYNOIDAE
6. A fan-shaped group of broad flattened bristles (paleae) on all segments ... CHRYSTOPETALIDAE
 Dorsal paleae absent 7
7. Prostomium with two divergent tentacles and flanked by long cirri inclosing acicula.
 Feet biramous without cirri or bristles... .. TOMOPTERIDAE
 — Prostomium without tentacles. Feet uniramous. Bristles present 8
 — Prostomium with tentacles. Feet biramous 10
8. Prostomium distinct, conical. Foliaceous dorsal and ventral cirri. A few acicular bristles TYPHLOSCOLECIDAE
 — Prostomium indistinct 9
9. Body papillated and bearing in addition transverse rows of large spherical capsules SPHAERODORIDAE
 — No such papillation. Cirri globular PISIONIDAE
10. Prostomium small. Five tentacles. Caruncle usually present. Gills well developed.
 Pharynx unarmed AMPHINOMIDAE
 — Prostomium large... .. 11
11. Pharyngeal armature complex. Upper jaws composed of a number of denticulated plates EUNICIDAE
 — Pharyngeal armature simple or absent. Tentacles not more than three 12
 — Tentacles more than three 14
12. Palps simple. Pharynx armed with a single tooth or a crown of denticles, and followed by a barrel-shaped muscular gizzard. Feet uniramous SYLLIDAE
 — Palps biarticulate, sometimes absent. No gizzard. Pharynx armed or unarmed 13
13. Dorsal cirri of moderate length, not moniliform. Pharynx with a pair of toothed jaws and almost always with numerous small paragnaths. Feet usually biramous NEREIDAE
 — Dorsal cirri long, moniliform. Pharynx cylindrical, unarmed or armed only with stylets (except in *Magalia*). Feet biramous and sesquiramous HESIONIDAE
14. Prostomium conical, annulated, ending in four small tentacles. Pharynx papillated and armed with at least four teeth. Feet biramous GLYCERIDAE
 — Prostomium more or less rectangular with four small tentacles. Feet biramous, with lamellae and a sickle-shaped gill between the rami. Pharynx usually with a pair of jaws and rows of papillae. Bristles simple NEPHTHYDIDAE
 — Feet with foliaceous cirri, without sickle-shaped gill, usually uniramous 15
15. A pair of enormous globular eyes at the sides of the head ALCIOPIDAE
 — Eyes small, normal PHYLLODOCIDAE
16. Body divided into distinct regions 23
 — Body not divided into distinct regions 17
17. Segments numerous. Without anal branchiae and ventral shield 18

- Body short, stout. Segments few. Filiform anal branchiae and a large ventral shield bordered with stiff bristles STERNASPIDIDAE
18. Palps long, tentacle-like 19
- No tentacle-like palps 22
19. Two long tentacular palps on prostomium 20
- One or more pairs of palps inserted on the anterior segments. Branchiae simple, filiform, inserted above the feet. Capillary and usually acicular bristles. Prostomium conical without processes... .. CIRRATULIDAE
20. Two palps and two groups of branchiae retractile into a buccal funnel. Chaetae of first feet prolonged forwards to form a cephalic cage. Body thickly papillated ... CHLORHAEMIDAE
- Two long grooved palps not retractile into the mouth. No cephalic cage 21
21. Palps without suckers. Pedal lamellae erect. Dorsal branchiae cirriform. Hooded hooks present SPIONIDAE
- Palps with sucker-like papillae. Without branchiae. Prostomium spoon-shaped MAGELONIDAE
- Anterior cirri flask-shaped or frilled. Lateral branchiae filiform. Several kinds of bristle DISOMIDAE
22. A single median tentacle. Dorsal cirri and foliaceous dorsal branchiae. Capillary bristles and hooded hooks PARAONIDAE
- Prostomium with or without two short tentacles. Parapodia more or less conspicuous. Capillary bristles and forked bristles. No hooks SCALIBREGMIDAE
- Prostomium blunt, without appendages or with a crown of lacinated lobes. No branchiae. Ventral tori with many rows of minute uncini. Tube sandy... .. OWENIIDAE
- Prostomium with a keel or bordered cephalic plate. An anal plate or an anal funnel with cirri. No branchiae. Dorsal bristles capillary, ventral sigmoid hooks MALDANIDAE
23. A terminal branchial tuft with numerous filaments bearing secondary processes. Prostomium indistinct. Uncini ventral in the thoracic region, dorsal in the abdominal region. Tube membranous or calcareous 32
- Without terminal branchial tuft 24
24. Large flattened chaetae (paleae) forming an operculum closing the tube 31
- Without opercular bristles 25
25. Prostomium conical or blunt, without processes. Branchiae on many segments 28
- Prostomium more or less distinct. One pair of tentacle-like palps or numerous tentacular filaments 26
26. Prostomium with or without two small tentacles. Two long grooved palps. Two to three markedly dissimilar regions, the anterior short with uniramous feet bearing special chaetae in 4th chaetiger. Posterior notopods erect. Uncini pectinate CHAETOPTERIDAE
- Without tentacles. A cephalic veil and numerous tentacular filaments. Ventral tori with pectinate uncini 27
27. Tentacular cirri retractile into the mouth. Prostomium distinct. Three to four pairs of branchiae inserted on the first segments AMPHARETIDAE
- Tentacular cirri not retractile. Prostomium indistinct. Branchiae arborescent or rarely subulate, inserted on the first segments. Sometimes absent... .. TERESELLIDAE
28. With uncinigerous tori 30
- Without uncinigerous tori 29
29. Serrated capillary bristles and acicular hooks. Feet and branchiae conspicuous and erect on the back in the abdominal region ARICIIDAE
- Capillary bristles only. Feet without lobes. Branchiae lateral, ligulate. Prostomium pointed; conical OPHELIIDAE
30. Prostomium blunt. Anterior region abbranchiate: middle with dorsal, arborescent, non-retractile branchiae; often an achaetous and abbranchiate caudal region ARENICOLIDAE

- Prostomium conical. Anterior region abbranchiate; posterior region with or without simple branchiae; or the branchiae may be branched and retractile into lateral pouches. In the abdominal region, dorsal and ventral tori with sigmoid hooks CAPITELLIDAE
- 31. An operculum of an anterior row of large golden paleae. Caudal region very small and foliaceous, with hooks at the base. Two pairs of anterior branchiae. Tube of sand, conical, free AMPHICTENIDAE
- Two large, opercular stalks bearing a crown of paleae. A narrow achaetous and abbranchiate caudal region. Branchiae dorsal and numerous. Fixed, sandy tubes, often in masses SABELLARIIDAE
- 32. Without operculum and without thoracic membrane. Tube membranous or mucous SABELLIDAE
- Usually with an operculum. Thoracic membrane present. Tube calcareous SERPULIDAE

Family AMPHINOMIDAE

- Notopodial bristles in transverse rows across the back *Euphrosyne*
- Notopodial bristles lateral *Chloeia*

Genus *Euphrosyne*, Savigny

Body oval and segments few. The prostomium which bends over the front end of the body is partly dorsal and partly ventral. Caruncle with three parallel longitudinal lobes. An unpaired tentacle. Lateral tentacles on the ventral surface. Notopodial bristles in transverse rows across the back. Branchiae ramified and similarly disposed in transverse rows of trunks behind the dorsal bristles. Paired dorsal cirri on each side.

- Five pairs of branchial trunks per segment *Euphrosyne arctia*
- Six pairs of branchial trunks per segment *Euphrosyne maorica*

Euphrosyne arctia, Johnson.

Monro, 1930, p. 34, fig. 4 *a-e*.

OCCURRENCE. St. WS 228 (9); WS 231 (2); WS 246 (4); WS 871 (3).

SPECIFIC CHARACTERS. Length about 11 mm. Number of chaetigers between 17 and 21. Mouth reaches to anterior border of 5th chaetiger. Caruncle high and superficially divided into three longitudinal lobes. It reaches back to the 6th chaetiger. Branchiae begin on the 1st chaetiger and are arranged in transverse rows of five trunks on each side. These trunks usually have four branches and end in small pointed tips. The lower of the two dorsal cirri lies between the 2nd and 3rd most dorsal branchial trunks. The dorsal bristles consist of (1) smooth bifid bristles, (2) ringent bristles, (3) a few bristles apparently intermediate between the "ringents" and the smooth "bifids". The ventral bristles are simple bifids of two sizes.

REMARKS. Neither in this nor in the earlier Discovery collections (Monro, 1930) was an example of this species obtained above the 100-m. line.

Euphrosyne maorica, Augener (Fig. 1).

Augener, 1924, p. 259, fig. 1 *a-d*.

OCCURRENCE. St. 935, New Zealand (1).

SPECIFIC CHARACTERS. A small species with a length of about 10 mm. for 25 chaetigers. The present specimen measures 5 mm. by 2 mm. at the widest part for 21 chaetigers. There are two pairs of eyes, one ventral just in front of the buccal lobes and one dorsal on the prostomium. The caruncle reaches to the 6th chaetiger and the median tentacle is about one-third of its length. The gills begin on the first chaetiger. In a normal segment there are six branchial trunks on each side. Each trunk is very richly branched and the tufts end in narrow unexpanded tips. The lower of the two dorsal cirri lies between the 4th and 5th most dorsal branchial trunks. The dorsal bristles consist of "ringent" bristles (Fig. 1) and smooth bifid bristles. The ventral bristles are smooth bifids of two sizes.

Augener could not in his specimens see any serrations on the short arm of the dorsal ringent bristles. In this specimen they are distinct. Moreover, Augener gives the position of the lower dorsal cirrus as between the 2nd and 3rd most dorsal branchia. I find it between the 4th and 5th, and this agrees with Augener's figure.

Genus *Chloeia*, Savigny

Body oval. Caruncle a long plaited crest with marginal folds. Branchiae pinnate; dorsal cirri single; anus terminal. All bristles usually more or less bifurcated.

Chloeia inermis, Quatrefages.

Benham, 1916A, p. 390, figs. 6-11.

Augener, 1924, p. 258.

OCCURRENCE. St. 939, New Zealand (1 juv.).

SPECIFIC CHARACTERS. There is no colour pattern, and except for the purple median tentacle and dorsal cirri the body in spirit is more or less without colour. The gills begin on the 5th chaetiger. The chaetae show no trace of serrations. Both in the dorsal and ventral bundles they may be (a) perfectly smooth, (b) may exhibit a minute obsolescent spur. The ventral bristles are thinner than the dorsal, especially those in the middle of the neuropod which are long, hair-like and extremely fine and also have an incipient spur.

The present specimen is a very young example of the species and measures 8 mm. by 3 mm. at the widest part for 23 chaetigers. Up to the middle of the body dorsal bristles of the two types already described are found, and in addition there are a few bristles with small but complete spurs, but in the hinder region the dorsal bristles appear all to be smooth. In the neuropod some of the ventral bristles of the first few chaetigers have an obsolescent spur; otherwise they are smooth. The long, slender, capillary type of ventral bristle is not present behind about the 10th chaetiger.



Fig. 1. *Euphrosyne maorica*. Ringent bristle.

Family APHRODITIDAE

Dorsal bristles smooth	<i>Aphrodite</i>
Dorsal bristles harpoon-shaped	<i>Laetmatonice</i>

Genus *Aphrodite*, Linnaeus

A thick dorsal felting covers the elytra. Dorsal bristles of two kinds: (1) protective spines usually projecting through the dorsal felting, (2) very long and slender bristles. Ventral bristles stout and with slightly curved tips. They are arranged in three tiers. Eyes, when present, sessile.

Dorsal bristles stout, needle-like, projecting above the dorsal felting. Median tentacle very long
 *Aphrodite longirostris*

Dorsal bristles slender, not projecting above the dorsal felting. Median tentacle short
 *Aphrodite talpa*

Aphrodite longirostris, Kinberg (Fig. 2 a, b).

Kinberg, 1857, p. 4, pl. i, fig. 3 b-h.

OCCURRENCE. St. WS 798 (2).

DESCRIPTION. This species has been elaborately figured by Kinberg, who nevertheless fails to convey its characteristic appearance. The palisade of long dark brown

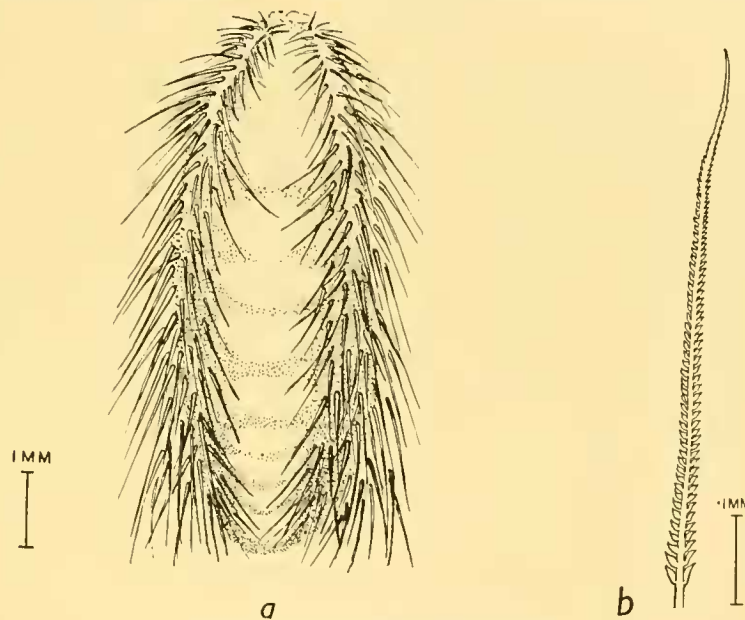


Fig. 2. *Aphrodite longirostris*.

a. Dorsal view. b. Lower pinnate bristle, second foot.

needle-like spines (Fig. 2 a) projecting upwards and backwards through the dorsal felting but not meeting across the back, is unlike that of any other *Aphrodite* that I have seen. The dorsal spines and the ventral bristles are dark brown and the dorsal felting is greenish grey. The dorsal capillary bristles are covered with mud, but when freed from this show a slight iridescence. The larger specimen measures 75 mm. by 31 mm. at the widest part for about 35 chaetigers. The shape of the body is like that of an

A. aculeata but rather wider and deeper relatively to the length. Except that I see no eyes, Kinberg's figure (3 *B*) of the head well represents that of these specimens. The prostomium is rounded and devoid of ocular peduncles. There is a very long and slender median tentacle without a distal enlargement: it is about three times as long as the head and two-thirds of the length of the palps. Its slightly stouter tentaculophore is about as long as the head. There is a large, laterally compressed, papillated facial tubercle. The tentacular cirri are short, being only about two-thirds of the length of the median tentacle. The tentacular segment, as usual, carries only notopodial bristles.

The elytra are figured by Kinberg: their surface is covered with a network of very fine lines and they carry a few minute papillae. The dorsal felting is very solid and compact and has a thickness of about 1 mm. The dorsal spines are very long, relatively twice as long as those of *A. aculeata*, and sharp, and show about 18 mm. of length above the dorsal felting. They make a formidable palisade above the back but leave uncovered a narrow path down the middle. The silky, capillary dorsal bristles appear to be quite smooth, and are thickly covered with mud.

The ventral bristles of the first two feet (2nd and 3rd chaetigers) are of three types: (1) the upper are stout dark brown bristles with slightly curved ends; (2) the middle are rather long bristles with most of the shaft smooth but pinnate towards the slender tip; (3) the lower are rather like the middle bristles, but much smaller and with strongly developed pinnae over most of their length (Fig. 2 *b*). In the middle feet the ventral bristles consist of smooth, strong chaetae with slightly hooked ends. They are not bearded.

In the hinder neuropods there are the usual denticulated bristles similar to those figured by me (Monro, 1930, fig. 5 *f-i*) for *A. alta*. In the middle feet the ventral cirri reach to the end of the foot, in the posterior feet they are longer.

REMARKS. This species is characterized by the long median tentacle and by the palisade of dorsal spines. *A. australis* has prominent, long dorsal bristles, but they are flattened, relatively delicate structures, very different from the sharp spines of this species.

Of the species of *Aphrodite* from high southern latitudes *A. echidna*, Quatrefages of McIntosh, has a very short median tentacle and short sharp spines projecting through the dorsal felting; *A. alta*, Kinberg, has dorsal bristles with slender hooked tips which do not penetrate the dorsal felting.

***Aphrodite talpa*, Quatrefages (Fig. 3).**

Quatrefages, 1865, 1, p. 196, pl. vi, figs. 2-4.

Fauvel, 1925, p. 140, fig. 4 *a-l*.

Non Ehlers, *nec* Benham, Augener, Fauvel (1917).

OCCURRENCE. St. 936, New Zealand (3); 939, New Zealand (1).

SPECIFIC CHARACTERS. This species is characterized by the slenderness of the dorsal bristles which are entangled for most of their length in the dorsal felting, but have their ends lying obliquely along the back. Moreover, the narrowing of the hinder end into a kind of tail which is apparent in most members of the genus to some extent, is here

carried very much further. The anterior four-fifths of the body is broadly oval, but the hinder fifth consists of a narrow caudal prolongation (Fig. 3).

The largest specimen measures 50 mm. by 25 mm. at the widest part for 40 chaetigers and the smallest measures 17 mm. by 7 mm. for 35 chaetigers. There is a very small median tentacle, half the length of the head. There is a pair of rounded ocular areas each of which carries two minute black dots, which I take to be eyes.

The dorsal bristles are long, rather slender, smooth and with delicate curved tips. They are covered with mud and lie obliquely along the back and with the naked eye are almost impossible to distinguish from the rest of the felting. This separates the present species from the much commoner *A. australis*, Baird, in which the dorsal bristles are much stouter, more abundant and more prominent.

The extent to which the dorsal bristles are entangled with the felting is variable. They may be almost covered by it, or they may lie for the most part loosely above it.

The ventral bristles are arranged in three rows in the usual manner. Towards the end they taper suddenly into fine, sharp-looking points, and the narrow tip is usually covered with hairs. In the first and second feet there are the usual hastate bristles and twisted bipinnate bristles and in the hinder region there are found hastate, denticulated, bipinnate and spinous bristles as in other species.

REMARKS. I am satisfied that these specimens do not belong to *A. australis* and they agree well enough with Fauvel's redescription of the type of *A. talpa*, Quatrefages. Fauvel, however, makes no mention of the caudal prolongation which is a noticeable feature in the present specimens. They are very close to the specimen from the Palmer Archipelago attributed by me (1930, p. 37) to *A. alta*, Kinberg. They can be distinguished by the presence of the tail, which in *A. alta* is very little developed.

Genus *Laetmatonice*, Kinberg

A median tentacle, beneath which is a large papillated facial tubercle. No lateral tentacles. Eyes on short peduncles. 15-20 pairs of elytra. Dorsal felting either absent or slightly developed. Dorsal bristles harpoon-shaped. Ventral bristles bifurcated with a row of stiff hairs at the tip.

Laetmatonice producta, Grube.

Gravier, 1911, p. 80.

Fauvel, 1923, p. 38.

Monro, 1930, p. 39.

Augener, 1932 *a*, p. 13.

OCCURRENCE. St. 363 (3); 474 (10).

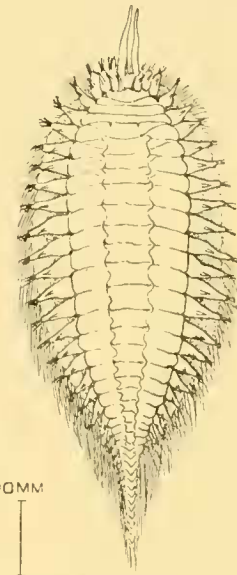


Fig. 3. *Aphrodite talpa*.
Ventral view.

SPECIFIC CHARACTERS. Dorsal felting absent. May attain a size of 18 cm. by $3\frac{1}{2}$ cm. with about 50 chaetigers. 18–20 pairs of elytra. Harpoon-shaped bristles with five to six teeth. Slender bipinnate ventral bristles confined to the first four chaetigers. There may be as many as 50 stiff hairs below the tip of the bifurcated ventral bristles.

L. filicornis is a much smaller species with only 15 pairs of elytra. Both McIntosh and Fauvel state that the slender ventral bipinnate bristles of the anterior region extend to the first five chaetigers. Working, it is true, with rather poor material I have myself failed to find any behind the 4th chaetiger.

Family POLYNOIDAE

1. With no lateral tentacles...	...	...	...	...	...	...	...	...	<i>Macellicephala</i>
— With lateral tentacles	...	...	...	...	...	...	...	...	2
2. 12 pairs of elytra ...	...	...	...	...	...	...	...	...	<i>Euphionella</i>
— 15 pairs of elytra ...	...	...	...	...	...	...	...	...	3
— 18 pairs of elytra ...	...	...	...	...	...	...	...	...	8
— Elytra numerous. Body long, vermiform	...	...	...	...	...	...	...	...	9
3. Body short, about 40 segments, more or less completely covered by elytra	...	...	...	...	...	...	...	...	4
— Body short, between 40 and 50 segments, not covered by elytra in hinder region	...	...	...	...	...	...	...	...	<i>Hermadion</i>
— Body long and vermiform, elytra confined to anterior region	...	...	...	...	...	...	...	...	<i>Polynoë</i>
4. Lateral tentacles inserted subterminally. A facial tubercle present ...	...	...	...	...	...	...	...	...	<i>Eulagisca</i>
— Lateral tentacles inserted ventrally. No facial tubercle	...	...	...	...	...	...	...	...	5
5. Upper ventral bristles slender, capillary	...	...	...	...	...	...	...	...	6
— Upper ventral bristles moderately stout	...	...	...	...	...	...	...	...	7
6. Upper ventral bristles capillary with a long spinous region and a hair-like tip	...	...	...	...	...	...	...	...	<i>Antinoë</i>
— Upper ventral bristles ending in a minutely bifid tip...	...	...	...	...	...	...	...	...	<i>Eucranta</i>
7. Ventral ramus having either bidentate bristles only, or both bidentate and unidentate bristles	...	...	...	...	...	...	...	...	<i>Harmothoë</i>
— Ventral ramus having unidentate bristles only	...	...	...	...	...	...	...	...	<i>Eunoë</i>
8. Lateral tentacles inserted subterminally. Dorsal bristles slender and heavily pectinated	...	...	...	...	...	...	...	...	<i>Halosydna</i>
9. With both a facial tubercle and an occipital flap	...	...	...	...	...	...	...	...	<i>Hololepida</i>
— With neither facial tubercle nor occipital flap...	...	...	...	...	...	...	...	...	10
10. Lateral tentacles inserted terminally	...	...	...	...	...	...	...	...	<i>Lepidametria</i>
— Lateral tentacles inserted ventrally	...	...	...	...	...	...	...	...	<i>Polyeumoa</i>

Genus Harmothoë, Kinberg

Lateral tentacles inserted ventrally. Prostomium with lateral peaks. Fifteen pairs of elytra more or less covering the whole back. Dorsal chaetae stouter than the ventral which are usually bidentate, but may be both bidentate and unidentate.

1. Dorsal bristles with bearded tips	...	Subgenus <i>Barrukia</i> . <i>Harmothoë</i> (<i>Barrukia</i>) <i>cristata</i>
— Dorsal bristles without bearded tips	...	2
2. Dorsal bristles of two distinct types	...	<i>Harmothoë benthophila</i>
— Dorsal bristles of one type	...	3
3. Ventral bristles usually all bidentate	...	4
— Ventral bristles partly bidentate and partly unidentate	...	7
4. Elytral tubercles few, confined to a small area near scar of attachment	...	<i>Harmothoë magellanica</i>

- Elytral tubercles numerous, spread over most of the surface 5
- 5. Smaller elytral tubercles bollard-shaped *Harmothoë ernesti*
- Smaller elytral tubercles hook-shaped 6
- 6. Hinder border of elytra usually carrying a few large conical vesicles. About 37 segments
... .. *Harmothoë spinosa*
- Hinder border of elytra usually carrying long curved spines. About 40 segments
... .. *Harmothoë spinosa*, var. *lagiscoïdes*
- 7. Elytra with large vesicles 8
- Elytra without large vesicles 9
- 8. Elytral vesicles pear-shaped with an apical papilla *Harmothoë exanthema*
- Elytral vesicles globular, without an apical papilla *Harmothoë exanthema* var. *bergströmi*
- 9. Elytra with only a few cilia at the hinder border *Harmothoë brevipalpa*
- Elytra ciliated over most of the surface *Harmothoë brevipalpa*, var. *ciliata*

Harmothoë magellanica (McIntosh).

Lagisca magellanica, McIntosh, 1885, p. 82, pl. xiii, fig. 5; pl. xviii, figs. 3-4; pl. viiA, figs. 1-2.

Harmothoë magellanica, Bergström, 1916, p. 280, pl. iv, figs. 1-3.

Monro, 1930, p. 54.

Augener, 1932 a, p. 18.

OCCURRENCE. St. 123 (2); 156 (1 juv.); WS 27 (4); WS 225 (4); WS 228 (1); WS 239 (4); WS 244 (5); WS 246 (3); WS 249 (1); WS 764 (1); WS 776 (1); WS 803 (1); WS 825 (5); WS 840 (1); WS 852 (10); WS 871 (numerous).

SPECIFIC CHARACTERS. There may be about 15 segments behind the last pair of elytra. There are often small dark spots on the elytra which are smooth except for a small patch of minute tubercles near the umbilicus.

The dorsal bristles are stout, numerous and lightly striated; the ventral are long and clearly bidentate, and the upper ventral bristles have the toothing continued much farther down the shaft than the rest.

REMARKS. As the hinder end of the body is left uncovered by the elytra in this species, it would perhaps be preferable to refer it to *Lagisca* rather than to *Harmothoë*.

Harmothoë exanthema (Grube).

Bergström, 1916, p. 287, pl. iii, fig. 5.

OCCURRENCE. St. 53 (3); WS 582 (1); WS 762 (2); Puerto Bueno, Sarmiento Channel, 13 m. (2 juv.).

SPECIFIC CHARACTERS. About 40 chaetigers. Anterior pair of eyes at the sides of the head. The elytra do not quite cover the hinder extremity. They are provided with small, conical tubercles and also at their hinder border with a few large pear-shaped vesicles surmounted by a long papilla. The dorsal bristles are strongly pectinated and the ventral are both unidentate and bidentate.

This species is allied to *H. ernesti*, Augener, and seems to live in shallow water.

Harmothoë exanthema (Grube), var. *bergströmi*, var. nov. (Fig. 4 a-c).

OCCURRENCE. St. WS 221 (1); WS 583 (1); WS 834 (5).

VARIETAL CHARACTERS. The pyriform tubercles with an apical papilla are absent and the elytra (Fig. 4 a) carry in addition to numerous small acuminate tubercles (Fig. 4 b)

a number of gigantic soft globular vesicles (Fig. 4 *c*) without an apical papilla. As in the stem-form the ventral bristles are both bidentate and unidentate, the former being more numerous in the middle of the bundle.

The specimens from St WS 834 present a remarkable appearance, for the whole surface of about the hinder third of the scales is a mass of gigantic round vesicles with a granular structure, each attached to the scale by a narrow base. The specimen from St. WS 221 has much fewer and smaller vesicles, and the only remaining scale on the specimen from St. WS 583 has a few large vesicles. All these structures are at once separable from the much smaller, harder, pyriform and papillated tubercles in the stem-form.

The largest of the present specimens measures 30 mm. by 5 mm. without the feet for 40 chaetigers.

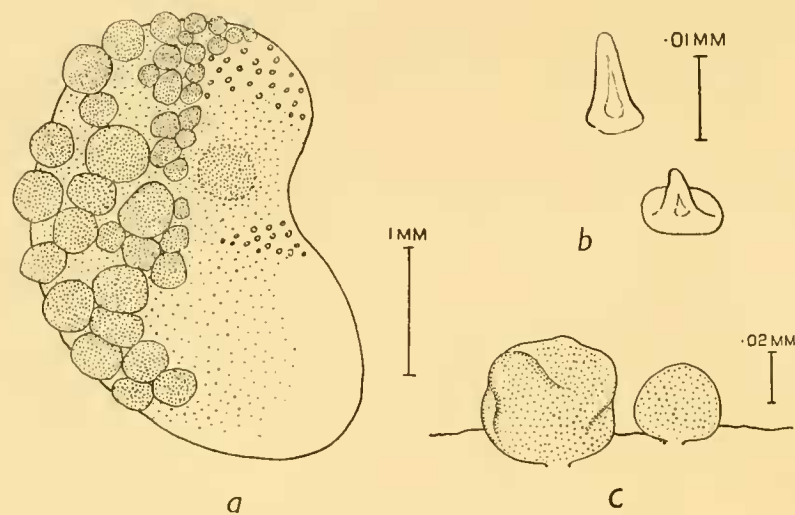


Fig. 4. *Harmothoë exanthema*, var. *bergströmi*.
a. Elytron. *b.* Acuminate tubercles. *c.* Globular vesicles.

REMARKS. Augener, who has seen the type, states that *Polynoë vesiculosa*, Grube, from the Magellan region is the same as *Harmothoë exanthema*, and as I regard the present examples as distinctly separable from the latter species I have established a new variety. I rather suspect that Ehlers (1897, p. 14 and 1901, p. 42) had before him examples both of this form and of *exanthema*, and included them both under the name *vesiculosa*.

Harmothoë brevipalpa, Bergström (Fig. 5).

Bergström, 1916, p. 277, pl. ii, fig. 1; pl. iv, figs. 4-7.

Augener, 1932*b*, p. 100.

Harmothoë (*Evarnella*) *impar*, var. *notialis*, Monro, 1930, p. 58, fig. 13 *a-d*.

OCCURRENCE. St. 399 (6); WS 229 (3).

SPECIFIC CHARACTERS. A small species measuring about 15 mm. by 2 mm. without the feet for 34 chaetigers. There is a typical harmothoid head with the anterior pair of

eyes in the middle of the lateral surfaces of the prostomium. The palps are normal, being about twice as long as the head (Fig. 5). The elytra have a few small papillae at the external border and are rather sparsely dotted with small conical tubercles.

The dorsal bristles are numerous and strongly pectinated. The upper ventral bristles are elongate, slender, bidentate and with a long spinous region: more ventrally they become shorter and more expanded distally. The middle ventral chaetae are bidentate. The bristles at the base of the neuropod are unidentate and with a short spinous region.

REMARKS. Augener has rightly pointed out that the new variety of *H. impar* described by me in 1930 differs from Bergström's *H. brevipalpa* only in the absence of the great reduction in size of the palps which Bergström found in his specimen and treated as an important specific differential. Augener further holds the view that the reduction of the palps in Bergström's specimen was an accidental condition due to loss followed by regeneration. As a number of specimens have been found since Bergström's original description which agree with his type except in the matter of the palps, I accept Augener's conclusion. My *H. impar* var. *notialis* therefore becomes a synonym of *H. brevipalpa*.

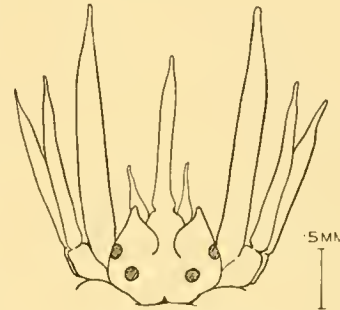


Fig. 5. *Harmothoë brevipalpa*.
Head from above.

***Harmothoë brevipalpa*, Bergström, var. *ciliata*, var. nov. (Fig. 6).**

OCCURRENCE. St. WS 583 (1).

VARIETAL CHARACTERS. The variety differs from the stem-form in that the outer and posterior borders of the elytra are furnished with a fringe of long cilia. Moreover, cilia are not confined to the marginal fringe but are found over a great part of the surface of the scale (Fig. 6), especially in the area adjoining the fringe. In other respects the variety and the stem-form are indistinguishable.

REMARKS. This variety is based on a single complete specimen measuring 13 mm. by 3 mm. for 35 chaetigers.

***Harmothoë benthophila*, Ehlers.**

Fauvel, 1923, p. 68, figs. 24 *h-o*.

OCCURRENCE. St. 702 (1).

SPECIFIC CHARACTERS. Prostomium bilobed without frontal peaks. Median tentacle longer than the palps, lateral tentacles shorter than the head. Ten to eleven pairs of elytra covering the back; they are large, soft, transparent and carry a few papillae. Dorsal bristles of two sorts: (1) short and curved with rows of scales and tips ending in two blunt points, (2) very long straight bristles with spirally arranged scales and tips also ending in two blunt points.

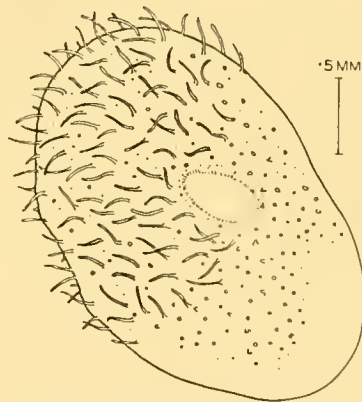


Fig. 6. *Harmothoë brevipalpa*,
var. *ciliata*. Elytron.

The upper ventral bristles are long, slender and spinous with curved bidentate tips; the lower ventral bristles are shorter and broader; they are almost smooth and have bidentate tips. There is a caudal appendage. The present specimen measures 4 mm. by 1 mm. without the feet for about 24 chaetigers.

Harmothoë ernesti, Augener? (Fig. 7 a-d).

Augener, 1931, p. 281, fig. 2 a-f.

OCCURRENCE. St. WS 811 (1); WS 834 (6).

SPECIFIC CHARACTERS. Body rather elongate for a *Harmothoë*. Number of segments between 35 and 41. An average specimen measures 25 mm. by 3 mm. without the feet. The lateral tentacles are short, about as long as the head, one-third as long as the median tentacle and tentacular cirri, and one-fourth as long as the palps. The anterior pair of eyes is placed in the middle of the head at its lateral edges. The elytra leave the

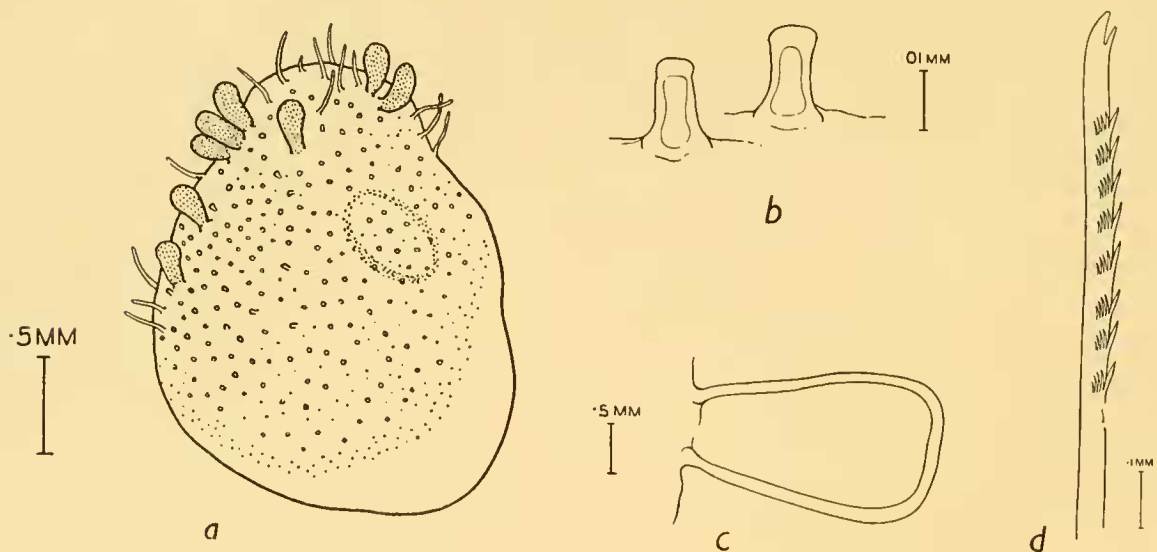


Fig. 7. *Harmothoë ernesti*.

- | | |
|---------------|---------------------|
| a. Elytron. | c. Vesicle. |
| b. Tubercles. | d. Ventral bristle. |

posterior extremity uncovered. They are fringed (Fig. 7 a) and carry numerous small bollard-shaped tubercles with thick cuticular caps (Fig. 7 b) and a few large egg-shaped or urn-shaped vesicles (Fig. 7 c). These large vesicles tend to be situated at the hinder margin of the scales especially in the posterior region of the body. In the front region they are distributed more widely over the surface. The dorsal bristles are stout and strongly pectinated except at the tip, which is smooth. Just above the neuropodial aciculum the apex of the chaeta-sac is produced into a finger-shaped process. The ventral bristles (Fig. 7 d) are rather slender, with numerous frills and a bidentate tip. The second tooth lies well below the terminal tooth.

REMARKS. I regard these specimens as rather doubtfully belonging to Augener's species from the Abrolhos Bank off Brazil. The elytral vesicles appear to be similar, but in Augener's species they are more numerous. The present specimens are probably southern representatives of *Harmothoë impar*, Johnston.

Harmothoë spinosa, Kinberg.

Ehlers, 1913, p. 438, pl. xxvi, figs. 1-12.

Bergström, 1916, p. 284, pl. ii, figs. 5-6; pl. iii, figs. 1-4.

OCCURRENCE. St. 371 (7); 456 (numerous); WS 27 (3); WS 225 (2); WS 239 (1); WS 244 (4); WS 583 (1); WS 762 (3); WS 764 (1); WS 782 (3); WS 784 (2); WS 801 (2); WS 811 (1); WS 824 (2); WS 825 (5); WS 834 (2); WS 837 (2); WS 867 (4); MS 65 (1).

SPECIFIC CHARACTERS. There are 37 segments. The elytra are mottled with reddish brown and the back and feet are banded to a variable extent with brown markings. There are numerous, minute, conical, acuminate tubercles on the elytra, and in addition the hinder border may be provided with several large, vesicular tubercles. These are often absent. Furthermore, the external edge of the elytra may or may not be furnished with a fringe of cilia. The dorsal bristles may be strongly pectinated or almost smooth. The ventral are toothed and as a rule bidentate. Specimens with unidentate ventral bristles are, however, found, and also intermediate specimens in which one or two faintly bidentate bristles may be seen in neuropods bearing unidentate bristles.

REMARKS. Almost the only constant specific character that I can find after examining a large series of this species is the presence of the numerous, minute, conical acuminate tubercles on the elytra. The large haul of specimens from off Bouvet Island yielded a number of examples with unidentate ventral bristles.

Harmothoë spinosa, Kinberg, var. *lagiscoides*, Willey.

Willey, 1902, p. 265.

Gravier, 1911, p. 92, pl. vi, figs. 64-69.

Harmothoë lagiscoides, Bergström, 1916, p. 282, pl. ii, figs. 2-3.

Augener, 1932 a, p. 15.

OCCURRENCE. St. 456 (8); WS 764 (6).

VARIETAL CHARACTERS. The number of segments is about 40, and the pigmentation is more intense than in *H. spinosa*. A few of the terminal segments are left uncovered by the elytra, and the hinder end is noticeably more tapered than in the stem-form. The hinder border of the elytra is furnished with a few long, acuminate spines.

REMARKS. Bergström and Augener have raised Willey's var. *lagiscoides* to specific rank. In my earlier Antarctic report I included it under *H. spinosa*. I have now come to the conclusion that its characters are sufficiently constant to merit at any rate varietal status.

Subgenus **Barrukia**, Bergström

As *Harmothoë*, except that the dorsal bristles mostly have bearded tips.

Harmothoë (Barrukia) cristata (Willey).

Gattyana cristata, Willey, 1902, p. 268, pl. xlv, figs. 1-4.

Barrukia cristata, Bergström, 1916, p. 297, pl. v, figs. 7-9 and 14.

OCCURRENCE. St. 363 (4); 456 (2).

SPECIFIC CHARACTERS. There is a row of median dorsal pads running the whole length of the body. The elytra are papillated and have clavate tubercles with crenate tops. The dorsal bristles mostly have bearded tips and the ventral are unidentate with two short rows of teeth on the shaft.

REMARKS. The specimens from St. 363 are distinctive in having in the hinder part of the elytra a patch of relatively gigantic spinous pustules which are variable in shape and size.

Genus *Eunoë*, Malmgren

As *Harmothoë*, but with unidentate ventral bristles.

Eunoë anderssoni (Bergström).

Harmothoë anderssoni, Bergström, 1916, p. 286, pl. iii, fig. 6; pl. iv, figs. 8-10.
Monro, 1930, p. 57.

OCCURRENCE. St. 123 (3); WS 33 (2); MS 62 (1).

SPECIFIC CHARACTERS. A small species measuring about 10 mm. by 1 mm. without the feet for 34 chaetigers. There is a typical harmothoid head and two pairs of rather large eyes. The anterior pair are on the sides of the head in the middle, and the posterior are dorsal but at the extreme lateral edges. The elytra have both marginal and submarginal papillae and both large and small tubercles with irregular jagged tips. The dorsal bristles are numerous and pectinated: the upper neuropodial bristles are rather elongate and slender with a long spinous region showing scales on the blade as well as a toothed edge. From above downwards the bristles show an increasingly shorter spinous region, and the lower ventral bristles are expanded distally and have a very short spinous region showing a toothed edge only. All the neuropodial bristles are unidentate. This appears to be the normal condition, but in the specimens from St. 123 the two or three uppermost bristles in the ventral bundle show distinct traces of a second tooth.

Genus *Eulagisca*, McIntosh

The arrangement of the elytra is as in *Harmothoë*. The insertion of the lateral tentacles is terminal or subterminal, not ventral. A large facial tubercle is present. The dorsal bristles are stouter than the ventral and lightly pectinated: the ventral are frilled and unidentate.

Eulagisca corrientis, McIntosh.

McIntosh, 1885, p. 91, pl. xiii, fig. 4; pl. viiA, figs. 3-4.
Monro, 1930, p. 48, fig. 11 a-e.
Augener, 1932 a, p. 19.

OCCURRENCE. St. WS 246 (1).

SPECIFIC CHARACTERS. This is a large species measuring up to about 80 mm. by 15 mm. without the feet for 36 segments. It is superficially very like a Panthalid. The head is of the lepidonotid type in that the insertion of the lateral tentacles is terminal, but the top of the median ceratophore lies a little above the lateral ceratophores after

the manner of *Halosydna*. All the appendages are hirsute except the palps, which are covered with small papillae. There is a well-developed conical facial tubercle, and behind the head a nuchal flap or gibbosity. The bristles of the tentacular segment are unusually numerous and well developed. The elytra are arranged as in *Harmothoë*, and the pseudo-elytrophores are scarcely less prominent than the elytrophores. The dorsal cirrophores are set very low down on the feet and have a prominent lateral expansion. The dorsal cirri are very long, the tips of the bristles only reaching to about half their length. The bristles are as described for the genus.

REMARKS. I cannot agree with Augener that this species is capable of inclusion under *Harmothoë*. The genus *Eulagisca* is very near to *Allmaniella*, McIntosh, from which it differs in the possession of unidentate instead of bidentate ventral bristles and of a facial tubercle. The latter may prove to be only a specific character.

Genus *Hermadion*, Kinberg

Fifteen pairs of elytra arranged as in *Harmothoë* but leaving the hinder end of the body uncovered. There are about 15 segments behind the last pair of elytra. The lateral tentacles are inserted ventrally, but there are no prostomial peaks. The dorsal bristles are numerous, stout, and either smooth or very lightly pectinated, the ventral bristles are unidentate.

Hermadion magalhaensi, Kinberg.

Fauvel, 1916, p. 423, pl. viii, figs. 10-11, with synonymy.

OCCURRENCE. St. 652 (2); WS 84 (1); WS 576 (1); WS 755 (numerous); WS 841 (2).

SPECIFIC CHARACTERS. The elytra are variably coloured with brown and white markings. They are thickly covered with small tubercles. The dorsal bristles are dark brown, stout, upturned, and either smooth or very lightly pectinated: the ventral are unidentate and with well-developed scales.

Genus *Polynoë*, Savigny

Body long and vermiform, with numerous segments. Fifteen pairs of elytra confined to the anterior region and leaving a large number of hinder segments uncovered. The lateral tentacles are inserted ventrally. The dorsal ramus is much less developed than the ventral. The dorsal bristles are smooth or lightly pectinated; the ventral are frilled and either unidentate or bidentate.

Polynoë antarctica, Kinberg.

Kinberg, 1857, p. 23, pl. x, fig. 58.

Fauvel, 1916, p. 426.

Monro, 1930, p. 53.

Harmothoë antarctica, Bergström, 1916, p. 279.

OCCURRENCE. St. WS 583 (1); WS 755 (5); WS 869 (5).

SPECIFIC CHARACTERS. The elytra are usually punctuated with small dark spots, or they may be bordered with brown. They are quite smooth except for a patch of minute

tubercles near the umbilicus. Prostomial peaks are present. The palps are papillated, and the tentacles and cirri carry a few sparse papillae. The dorsal bristles are few in number (four to six) and either smooth or very lightly pectinated. The ventral bristles are short, rather stout, carry rows of spines and are clearly bidentate.

Genus *Lepidametria*, Webster

The body is long and vermiform with between 60 and 150 segments and up to 50 pairs of elytra. The lateral tentacles are terminally inserted. The elytra are inserted on segments 2, 4, 5, 7, 9 and on alternate segments up to between the 25th and 30th chaetigers. Behind this the arrangement is irregular. The notopod is represented by an aciculum and sometimes by a few bristles also.

Lepidametria gigas (Johnson) (Fig. 8 *a, b*).

Polynoë gigas, Johnson, 1897, p. 172, pl. vii, figs. 33, 42, 42 *a*; pl. viii, figs. 48, 48 *a*, 48 *b*, 49.
Lepidametria gigas, Seidler, 1924, p. 145.

OCCURRENCE. St. WS 583 (1).

SPECIFIC CHARACTERS. The single specimen measures 70 mm. by 8 mm. including the feet for 88 chaetigers. There are 48 pairs of large elytra which completely cover the body. They are mottled with patches of iron grey pigment. The body itself has no colour.

The head corresponds to Johnson's figure. It is broad at the base and the anterior pair of eyes is placed laterally at the widest part. The bases of the tentacles are rather elongate. The tentacles, palps and tentacular cirri all extend about an equal distance beyond the end of the head. The ventral cirrus of the first chaetiger is almost as long as the tentacular cirri. The elytra are quite smooth and correspond to Johnson's figure. According to Johnson the elytra are arranged as in *Halosydna* up to the 33rd chaetiger, i.e. on 2, 4, 5, 7, 9...27, 28, 30, 31, 33; after that on alternate segments up to the 49th chaetiger and then very irregularly. In this specimen the arrangement is a little different. The elytra are inserted on 2, 4, 5, 7, 9...29, 30, and from then onwards on alternate segments to the end of the body except in a few places where this regular arrangement is interrupted by two or three elytra being attached to consecutive segments. I have seen no asymmetrical segments with a cirrus on one side and an elytron on the other.

The notopod is represented by an aciculum and I see no bristles. The neuropod carries a sheaf of stout bristles with frilled and expanded ends. The tips may be either unidentate or bidentate and both types of bristle occur in the same foot, and also inter-

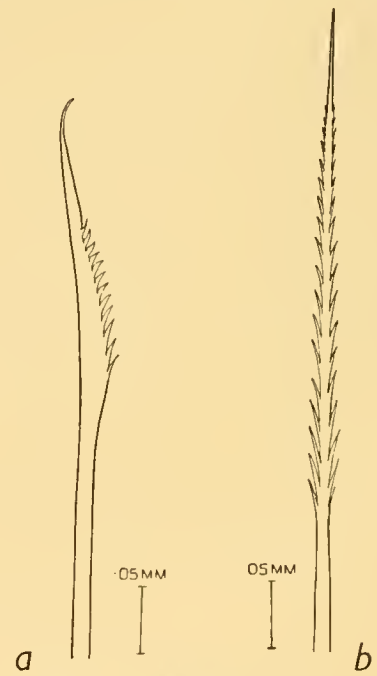


Fig. 8. *Lepidametria gigas*.

a. Upper bristle, first foot.

b. Lower bristle from first foot.

mediate stages in which the second tooth appears to be abortive. In the front region the bristles are predominantly bidentate and in the hinder region unidentate. The first two chaetigers carry special bristles. In the first foot there are in the upper part of the bundle a few moderately stout bristles with frilled ends and long, whip-like slender tips (Fig. 8 *a*). The rest of the bundle consists of delicate barbed bristles (Fig. 8 *b*). In the second foot the bristles are similar to those of the first except that the stout upper bristles are more numerous and the delicate barbed bristles much fewer.

REMARKS. Johnson's Californian specimens measured up to 165 mm. in length, and the elytra did not extend to the hinder extremity. Moreover, the arrangement of the elytra is a little different from that given by Johnson, who also makes no mention of the special bristles in the first two segments. Nevertheless, I believe this specimen to belong to Johnson's species, of which it is probably a young example. The arrangement of the elytra brings it close to my genus *Lepidastheniella* characterized by the presence of elytra on the 2nd, 4th, 5th, 7th, and on every alternate segment to the end of the body.

Ehlers's *L. irregularis* (Ehlers, 1901, p. 54) is very near, but the elytra are relatively much smaller, more rounded and do not overlap. They present a very different appearance from that of the widely overlapping, more or less reniform or oval structures in the present species.

The specimen is stated to have been found as a commensal with a Terebellid which itself occupied an empty Gastropod shell of the genus *Voluta*.

Genus *Hololepida*, Moore

Up to about 120 chaetigers. The head has the lateral tentacles inserted subterminally. There are a large occipital flap or gibbosity and a prominent facial tubercle. The elytra are inserted on segments 2, 4, 5, 7, and on alternate chaetigers up to the 23rd segment: from the 23rd to about the 40th segment they follow an irregular sequence, and from behind about the 40th chaetiger they are found in every segment. The notopodial bristles are fine, smooth capillaries: the upper neuropodial bristles are slenderly lanceolate and delicately denticulated, the lower neuropodial are coarser and have rows of frills and bidentate tips.

Hololepida australis, n.sp. (Fig. 9 *a-h*).

OCCURRENCE. St. WS 246 (1); WS 248 (1); WS 824 (1); WS 825 (1).

DESCRIPTION. In its general aspect this species is more like a Panthalid than a Polynoid. It is very large and striking to the eye. None of the specimens is complete and the largest fragment measures 90 mm. by 8 mm. without the feet and 17 mm. with the feet for only 38 chaetigers. The most complete fragment measures 63 mm. by 12 mm. with the feet for 42 chaetigers. Another specimen is broken into three pieces which together measure 95 mm. by 12 mm. including the feet for 59 chaetigers. These three fragments although all apparently belonging to the same individual do not represent an entire animal. The body is elongate, vermiform and flattened dorso-ventrally. In spirit the dorsum is a bluish grey, the feet and the large bolster-like elytophores being colourless.

There are traces of reddish brown pigment on the head, tentacles, dorsal cirri and elytra.

The head (Fig. 9 *a*) is bilobed, and each lobe is roughly triangular. The lobes of the prostomium are continued into the ceratophores of the lateral tentacles, but the ceratophore of the median tentacle lies a little above the lateral ceratophores as in *Halosydna*.

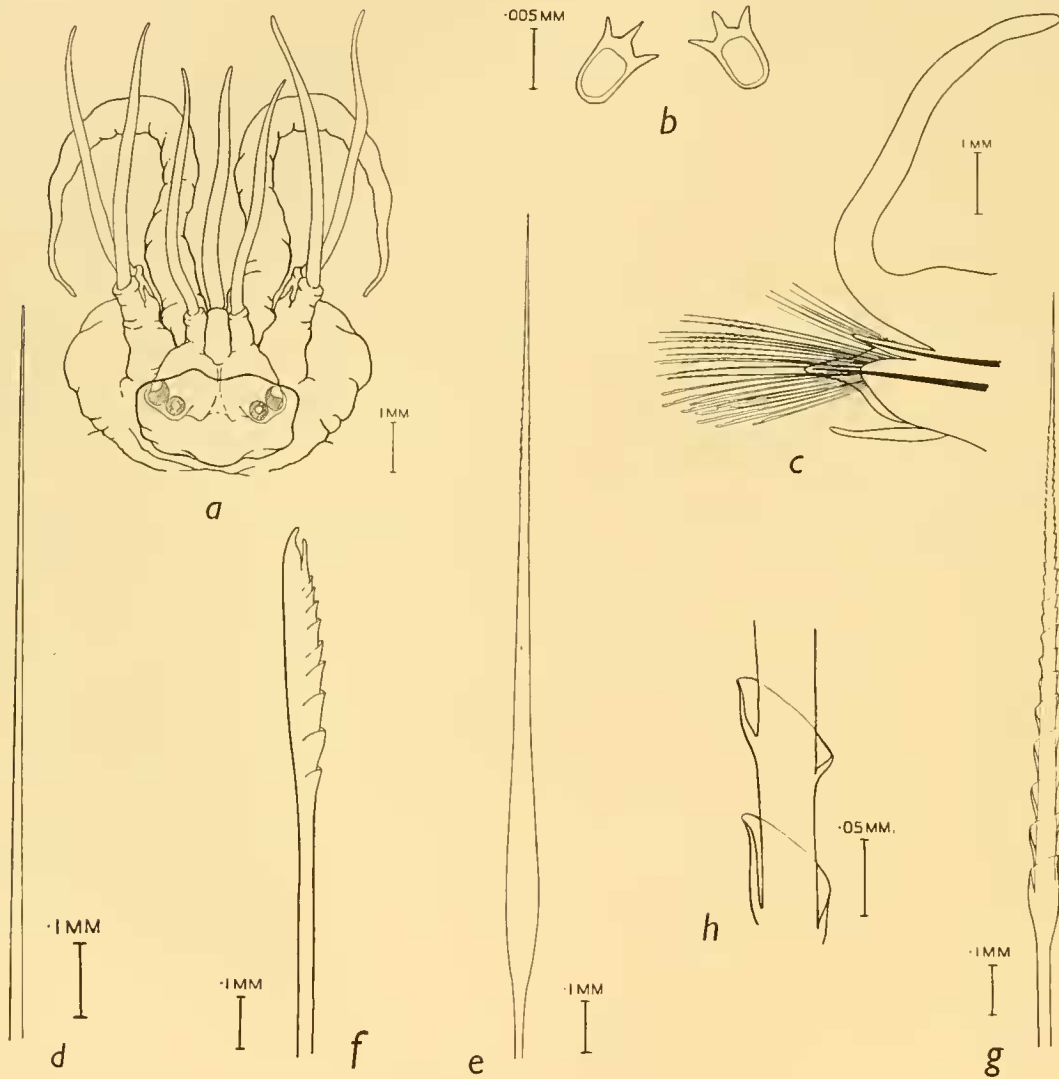


Fig. 9. *Hololepida australis*.

- | | |
|------------------------------|---|
| <i>a.</i> Head from above. | <i>e.</i> Uppermost ventral bristle. |
| <i>b.</i> Elytral tubercles. | <i>f.</i> Bidentate ventral bristle. |
| <i>c.</i> Middle foot. | <i>g.</i> Intermediate type of ventral bristle. |
| <i>d.</i> Dorsal bristle. | <i>h.</i> Part of ventral bristle highly magnified. |

At the postero-lateral borders of the head are two pairs of enormous contiguous eyes provided with lenses. The palps reach back to the 5th chaetiger, and the three tentacles and the tentacular cirri are all of about the same length, which is approximately two-thirds that of the palps. Tentacles, cirri and palps are smooth. Below the median

ceratophore is a facial tubercle, and the back of the head is covered by a large nuchal flap. The tentacular cirri are carried forward on each side so that they arise a little in front of the head. Between their upper and lower ceratophores and on the inside there is a small cirriform process enclosing an aciculum.

Nearly all the elytra are lost. Such as remain are frayed at the edges and damaged. They appear on the following segments: 2, 4, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 26, 29, 30, 32, 35, 38, 39, 40, 42, 43. The most complete fragment has only 42 chaetigers, so that I cannot follow the arrangement in the more posterior region. I suspect that behind the 42nd segment there are elytra on every segment. At any rate a hinder fragment from St. WS 824 has elytraphores on all the segments. The elytra are large, thick, more or less broadly oval, and have a gelatinous appearance. Under the microscope they have a fibrous texture and are dotted with very minute three-pronged tubercles (Fig. 9 *b*).

The feet (Fig. 9 *c*) are large and triangular. The dorsal ramus is much reduced and is represented by a long projecting process, containing an aciculum, and a small bundle of bristles arising from the anterior face of the neuropod. The ventral ramus is triangular and the anterior lip is produced into a cirriform process inclosing an aciculum. In the notopod the acicular process is postsetal and in the neuropod presetal.

Dorsal bristles are absent from the first two chaetigers. The dorsal cirri are long and extend well beyond the tips of the bristles: the ventral scarcely reach to the end of the foot. From about the 10th chaetiger backwards there is a white, glandular patch surrounding the base of the ventral cirrus. Nephridial papillae are visible from the 6th chaetiger.

The dorsal bristles (Fig. 9 *d*) are long, smooth, very fine capillaries. The ventral bristles are stouter than the dorsal. The uppermost ventral bristles (Fig. 9 *e*) are long, slenderly lanceolate and towards the hair-like apex have faintly denticulated edges. Below these and occupying most of the neuropod both above and below the acicular process there are moderately stout bristles (Fig. 9 *f*) with bidentate tips, and they have along the blade a row of oblique pockets with plain edges. Between these two types of ventral bristles there are one or two bristles more or less intermediate in type (Fig. 9 *g*). Their general shape is like that of the upper lanceolate bristles but they carry rows of pockets (Fig. 9 *h*) like the lower bidentate bristles.

REMARKS. I was at first inclined to regard these specimens as capable of inclusion within *H. magna*, Moore, from Alaskan waters, but they show a number of differences which in my opinion justify the establishment of a new species. The arrangement of the elytra in Moore's specimen and mine is similar up to the 32nd segment: Moore gives elytra on 32, 33, 35, 36, 38, 39, 40, 41, etc.: I find them on 32, 35, 38, 39, 40, 42, 43. Moore makes no mention of tubercles on the elytra; in these specimens there are characteristic three-pronged tubercles. Moore states that the two types of ventral bristle are separated in the foot by the aciculum; in these specimens there are numerous bristles of the bidentate type above as well as below the aciculum. Finally Moore states that dorsal bristles are absent from the first three notopods; in these specimens they are absent from the first two notopods.

Genus *Halosydna*, Kinberg

Body oblong. Lateral tentacles subterminally inserted. Pairs of elytra 18 or 21, covering the terminal segments. Dorsal bristles rather slender and strongly pectinated, ventral with rows of frills below the tip, which may be either unidentate or bidentate.

Halosydna patagonica, Kinberg.

Kinberg, 1857, p. 17, pl. v, fig. 23 *a-h*.

Seidler, 1924, p. 116, with synonymy.

OCCURRENCE. St. WS 762 (2); WS 834 (20); WS 837 (1); WS 847 (1).

SPECIFIC CHARACTERS. Thirty-six segments and eighteen pairs of elytra. The elytra are fringed and covered with small tubercles in addition to which there are a number of large conical vesicles well figured by Kinberg (fig. 23 *H*). The dorsal bristles are slender and heavily pectinated, the ventral are rather stout, bidentate and with frilled ends. The neuropod of the 1st chaetiger carries special bristles, which are delicate and barbed.

REMARKS. This species does not apparently penetrate as far south as South Georgia, for it was not represented in the extensive collections from that area made by the 'Discovery' in 1925-7, nor is it reported by Bergström from the collections of the Swedish South Polar Expedition.

Genus *Antinoë*, Kinberg

Fifteen or sixteen pairs of elytra arranged as in *Harmothoë*. The lateral tentacles are inserted ventrally and prostomial peaks are present. The dorsal bristles are stout and pectinated; the ventral are long and slender with elongated spinous regions and hair-like tips.

Antinoë antarctica (Bergström).

Austrolaenilla antarctica, Bergström, 1916, p. 291, pl. iii, fig. 8; pl. v, figs. 1 and 2.

Antinoë antarctica, Monro, 1930, p. 66, fig. 18.

OCCURRENCE. St. 39 (1); 123 (2); 142 (1); WS 211 (3 juv.); WS 212 (numerous); WS 213 (5); WS 214 (7); WS 229 (numerous fragments); WS 234 (6); WS 236 (numerous fragments); WS 237 (4); WS 244 (5); WS 748 (2); WS 752 (1); WS 758 (1); WS 773 (numerous fragments); WS 784 (1); WS 805 (numerous fragments); WS 839 (2 juv.).

SPECIFIC CHARACTERS. The head is very broad and divided by a median groove. The prostomial peaks are not clearly defined. The eyes are very small and sometimes invisible. The median tentaculophore is very large and all three tentaculophores are reddish brown. The elytra have a variable number of small tubercles and on their external margin a few clavate papillae. There are 15 pairs as in *Harmothoë*. The dorsal bristles are lightly pectinated and the ventral are long, slender, unidentate and end in a bearded or hirsute tip.

Genus *Euphionella*, gen.nov.

As *Euphione*, McIntosh, *sensu* Seidler (1924, p. 98), but characterized by the presence of pseudo-elytra (*vide* Seidler, 1921, p. 90) and of completely smooth ventral bristles.

The lateral tentacles are terminally inserted. There are 12 pairs of elytra arranged as in *Lepidonotus* and completely covering the body. The segments having a dorsal cirrus are provided with fan-shaped membranes which Seidler has called pseudo-elytra. Ramose branchiae are present from the 3rd chaetiger on the hinder faces of the feet, and small, globular branchial processes are found on the elytophores and on the corresponding structures in the cirrigerous segments. The dorsal bristles are exceedingly fine barbed capillaries; the ventral are stout, simple and without teeth or ornamentation of any kind.

Genotype: *Physalidonotus lobulatus*, Seidler.

Euphionella patagonica, n.sp. (Fig. 10 a-l).

OCCURRENCE. St. WS 212 (1).

DESCRIPTION. The specimen measures 19 mm. by 4 mm. without the feet for 25 chaetigers. In spirit there is no colour. The elytra are inserted on segments 2, 4, 5, 7, 9...21, 23, as in *Lepidonotus*. The head (Fig. 10 a) is rectangular, rather longer than broad. The lateral tentacles are terminal. A median groove is only slightly indicated. I see two pairs of rather indistinct, almost contiguous, eyes at the outer and hinder borders of the head. The lateral tentacles are about half as long again as the head and the median tentacle is about three times as long as this. The tentacular cirri are intermediate in length between the lateral and the median tentacles, the dorsal being slightly longer than the ventral. The tentacular segment carries a few bristles. The ventral cirrus of the 1st chaetiger is slender and elongate, being about twice as long as the foot. All these appendages are smooth, and have a slight subterminal dilatation. The palps, on the other hand, which are about one-third as long again as the median tentacle, are heavily papillated.

The elytra (Fig. 10 b) are large, leathery, firmly attached and cover the whole body. They are roughly slipper-shaped, and so disposed that the part corresponding to the heel overlaps the part corresponding to the toe of the succeeding scale. The elytophores are narrowly oval structures with their long axis lying across the body. They are attached to the elytra a little behind the middle point. The elytra are heavily fringed with long cilia. In the first pair the fringe is absent only from the anterior border, and in the remainder the fringe is confined to the outer and hinder edges. In addition to the marginal fringe of cilia there are a number of shorter cylindrical papillae dotted about on the scale itself in the neighbourhood of the marginal fringe. In the region of the umbilicus the elytra show a transverse thickening or hillock caused by the increase of connective tissue between the two layers of cuticle, and on the top of this hillock or crest there are three or four very large conical or capstan-shaped tubercles (Fig. 10 c). Besides these there are two further kinds of tubercle. Between the crest and the hinder

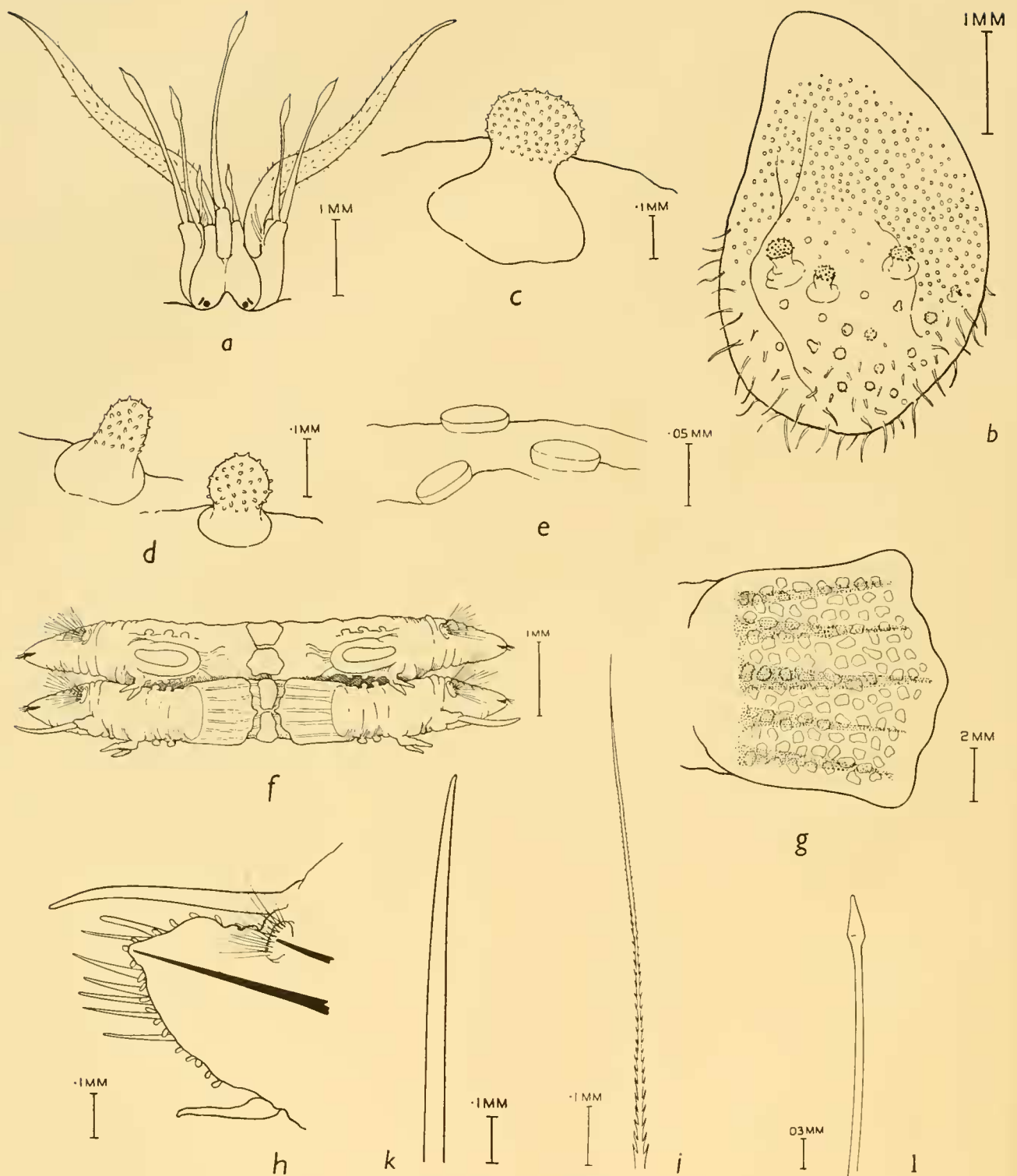


Fig. 10. *Euphionella patagonica*.

- | | |
|--|---------------------------|
| a. Head. | g. Pseudo-elytron. |
| b. Elytron. | h. Middle foot. |
| c. Larger type of echinate tubercle. | i. Dorsal bristle. |
| d. Smaller type of echinate tubercle. | k. Ventral bristle. |
| e. Disk-shaped tubercle. | l. Lower ventral bristle. |
| f. Dorsal surface of two middle segments, showing pseudo-elytra. | |

border of the scale there are a few smaller, but still large, roughly capstan-shaped, echinate tubercles (Fig. 10 *d*) and dotted all over the scale there are numerous small disk-shaped tubercles (Fig. 10 *e*). These are sparse in the front region of the scale.

On the back in the median line there is a longitudinal row of small, very soft pads. The 1st chaetiger has a single conical pad. In the 2nd chaetiger the pad shows signs of dividing into two pads lying side by side, for there are two cones arising from a single base. The following four chaetigers have two pairs of pads, one pair behind the other and the members of each pair lying side by side. Behind the sixth foot this arrangement in pairs ceases and the pads are continued in a somewhat irregular fashion to the end of the body.

Branchiae are present from the 3rd chaetiger. They are small branching structures lying on the hinder face of the feet on a level with the outer edge of the elytophores. In addition there are two or three minute globular processes, possibly branchial in function, lying on the front and hinder faces of the elytophores and of the corresponding structures in the cirriferous segments (Fig. 10 *f*). These last are provided with low oblong cushions running from the beginning of the foot to a point on a level with the inner edge of the elytophores. To the inner edge of these cushions there are attached roughly fan-shaped flaps or membranes, the inner edge of which lies up against the sides of the median dorsal pads. They are what Seidler has named pseudo-elytra (Fig. 10 *g*). They are smooth on the dorsal surface, thin and transparent. On the under side they are provided with six raised ridges apparently muscular in character which exactly overlie corresponding dorso-ventral muscular ridges on the back. In addition the under surface carries about a dozen rows of small vesicles which are apparently glandular. The function of these organs is to me quite unknown.

The feet (Fig. 10 *h*) are triangular in outline. The dorsal cirri are long and slender, extending beyond the tips of the bristles. The ventral cirri are short and stout, barely reaching to the end of the foot. They taper to a point. Both dorsal and ventral cirri are smooth, but the feet, except on their upper surface, and indeed the whole of the under surface of the body, are covered with short clavate papillae with large heads. The notopod forms a small rounded lobe on the anterior face of the foot. It is supported by an aciculum and carries numerous, exceedingly fine, hair-like, barbed bristles (Fig. 10 *i*). The triangular neuropod carries a narrow fan-shaped bundle of about 15 completely smooth, stout, acicular bristles (Fig. 10 *k*). Not only is there no trace of ornamentation but there is scarcely any sign of curvature at the tip. In addition to these bristles there are at the base of the bundle one or two shorter bristles with lanceolate heads (Fig. 10 *l*). In the first foot the neuropod is much reduced and is only slightly larger than the notopod. The notopodial bristles are very numerous, but the neuropod carries only three or four bristles similar in type to those of the normal feet but much more slender.

Small nephridial papillae are apparent from the 4th chaetiger. The terminal segment carries a single pair of pygidial styles.

REMARKS. The only species with which, to the best of my knowledge, the present curious form is congeneric is *Euphione lobulata*, Seidler (1921, p. 89, and 1924, p. 99)

from Callao. From this *E. patagonica* differs in the ornamentation of the elytra, in the possession of two or three lanceolate bristles in the neuropod and in several further characters. Seidler's species was based on an anterior fragment, and he attributed the lack of ornamentation on the ventral bristles to loss from wear. The study of the present specimen leads me to the conclusion that this was not so, and that there exists a group of branchiate lepidonotid Polynoidae with pseudo-elytra and smooth ventral bristles.

Genus *Macellicephala*, McIntosh

Body rather stout. Between 17 and 29 chaetigers. Prostomium bilobed, usually with well-developed prostomial peaks. There are no lateral tentacles. 8-13 pairs of elytra. Feet biramous with the dorsal ramus much reduced. Dorsal bristles absent or present in small numbers. They may be spinous or smooth. Ventral bristles long, delicate and transparent.

Macellicephala mirabilis, McIntosh.

McIntosh, 1885, p. 121, pl. xvi, fig. 1; pl. xiiA, figs. 9-11.

Macellicephala sp., Monro, 1930, p. 47, fig. 10 a-b.

Macellicephala mirabilis, Augener, 1932 b, p. 102.

OCCURRENCE. St. 144 (1).

SPECIFIC CHARACTERS. A small species with 17-18 chaetigers and a length of 20-25 mm. The colour is pink to purple on the back. There are no eyes. The head is markedly bilobed. There are nine pairs of elytra. The dorsal ramus has a few bristles that are either smooth or show just a trace of serration towards the tip. The ventral bristles are long and transparent and lightly serrated on one side only.

REMARKS. The present specimen is from the same haul as the *Macellicephala* recorded by me in my previous Discovery report. It is in a slightly better state of preservation than the latter and dorsal bristles are present in a number of the feet. McIntosh and Augener state that they are smooth: under a high magnification I can see some very fine serrations towards the tip.

Genus *Eucranta*, Malmgren

As *Harmothoë*, except that the upper ventral bristles are of a special kind, being long and slender, with rows of pectinae and minutely bifid tips.

Middle ventral bristles bidentate *Eucranta mollis*

Middle ventral bristles unidentate *Eucranta villosa*, var. *notialis*

Eucranta mollis (McIntosh).

Eupolynoe mollis, McIntosh, 1879, p. 259, pl. xv, figs. 5-9.

Eucranta mollis, Bergström, 1916, p. 294.

Monro, 1930, p. 51.

OCCURRENCE. St. 363 (1); WS 211 (1); WS 871 (1).

SPECIFIC CHARACTERS. The head is round and the lateral tentacles are inserted ventrally. The prostomial peaks are represented by two minute papillae lying above the large, round anterior eyes. The hinder pair of eyes lies at the back of the head. The

elytra are arranged as in *Harmothoë*: they are large, soft and smooth except for a patch of small tubercles near the umbilicus. The dorsal bristles are stout and pectinated; the upper and lower ventral bristles are long and slender, with rows of teeth and very delicate forked tips. The middle ventral bristles are frilled and bidentate. Bergström saw no transitional bristles of a character intermediate between the two types in the neuropods. I cannot confirm this, for at the top of the sheaf of the middle bidentate bristles there are a few bristles longer and more slender than the rest of the middle bristles and with very delicate bidentate tips which are transitional between the two types. In the lower part of the neuropod the two types of bristle are more abruptly separated.

Eucranta villosa, Malmgren, var. *notialis*, var. nov. (Fig. 11 *a-h*).

OCCURRENCE. St. WS 788 (1).

VARIETAL CHARACTERS. This variety is based on an anterior fragment measuring 9 mm. by 4 mm. without the feet for 25 chaetigers. There is a typical harmothoid head (Fig. 11 *a*) with well-developed prostomial peaks. The anterior pair of eyes are almost invisible from above and lie in the middle of the prostomium underneath its lateral edges. The hinder pair lie at the postero-lateral edges of the head. The median tentacle, the palps and the tentacular cirri are all about equal in length and three times as long as the head. The lateral tentacles are minute and just reach to the end of the ceratophore of the median tentacle.

The elytra (Fig. 11 *b*) are fringed on their outer and hinder borders and their surface is dotted not only with cilia (much more sparsely, however, than in Malmgren's figure), but also with small tubercles of variable shape (Figs. 11 *c-e*). Towards the anterior border the tubercles are smaller than over the rest of the scale. The feet are of the usual harmothoid type with a well-developed notopodial bristle-bundle and a triangular neuropodium. The dorsal bristles are sabre-shaped and strongly pectinated. In the ventral ramus the bristles are long, delicate, slender and carry rows of spines. Only the two uppermost bristles (Fig. 11 *f*) show the minutely bifid apex characteristic of the genus. The following half-dozen bristles are bidentate (Fig. 11 *g*), for there is a very slender second tooth below the curved tip: the remainder of the bristles are unidentate (Fig. 11 *h*) and are similar to those of the stem-form. The dorsal cirri are long, reaching well beyond the tips of the bristles: the ventral cirri reach to the end of the foot.

REMARKS. The only substantial difference between the present southern form and the northern *villosa* is the presence in var. *notialis* of the bidentate bristles intermediate between the characteristic bifid bristles at the top of the ventral ramus and the unidentate bristles which form the great majority. I have never seen an example of Malmgren's species, but as far as I can gather from the accounts there is no transition between the upper bifid bristles and the unidentate bristles.

Genus *Polyeunoa*, McIntosh

Up to 100 segments and 30 pairs of elytra. The body is elongated and vermiform. The lateral tentacles are inserted ventrally. The first 15 pairs of elytra are attached to

the following chaetigers: 1, 3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 25, 28, 31. More posteriorly the arrangement is very irregular. The dorsal bristles are stout, and either smooth or very lightly striated. The ventral bristles are toothed, terminally unidentate, and expanded towards the tip.

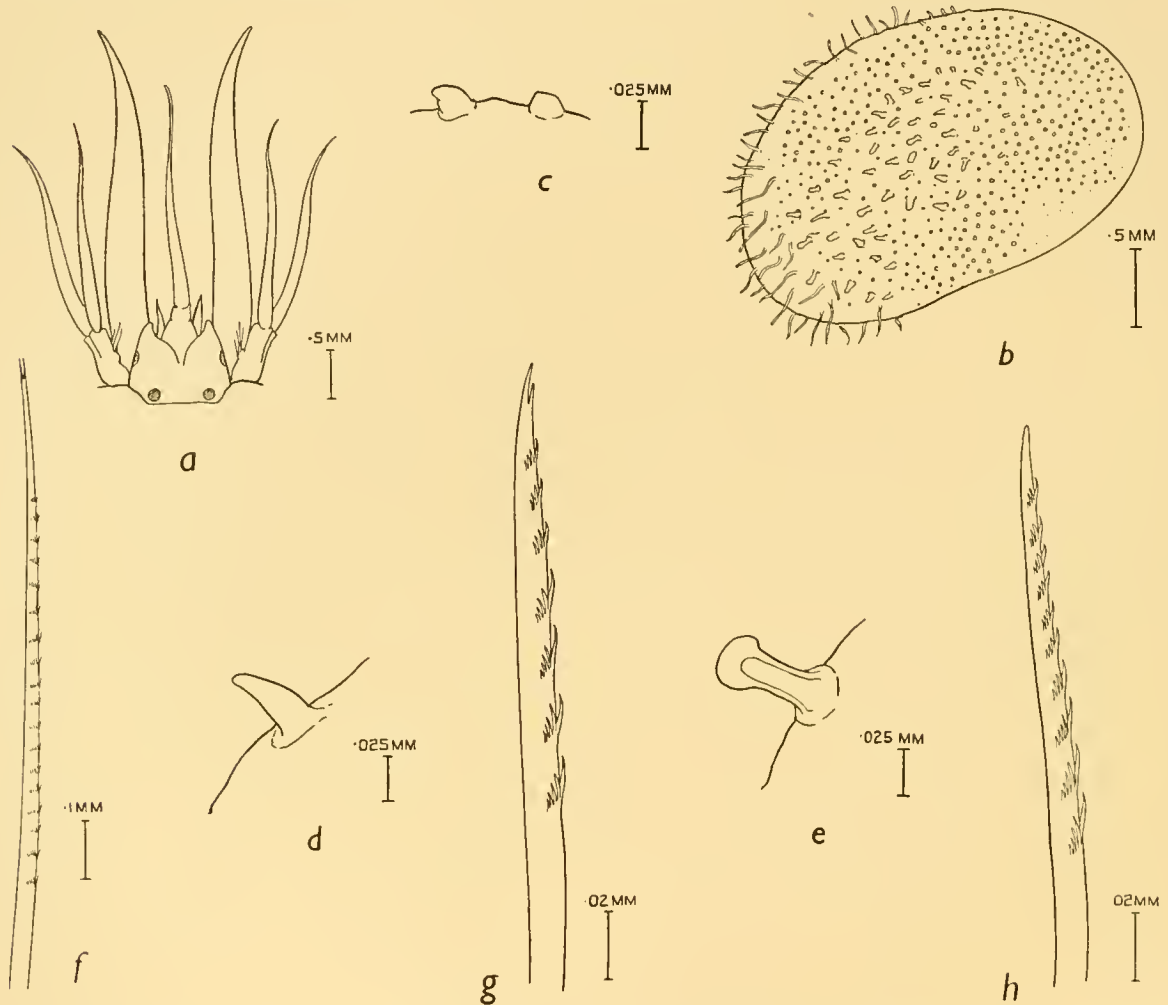


Fig. 11. *Eucranta villosa*, var. *notialis*.

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|--|---|
| a. Head from above. | e. Tubercle from hinder end of elytron. |
| b. Elytron. | f. Uppermost ventral bristle. |
| c. Tubercle from front end of elytron. | g. Bidentate ventral bristle. |
| d. Tubercle from middle of elytron. | h. Unidentate ventral bristle. |

Polyeunoa laevis, McIntosh.

McIntosh, 1885, p. 76, pl. xii, fig. 2; pl. xx, fig. 8; pl. viiA, figs. 12-13.

Enipo rhombigera, Ehlers, 1908, p. 47, pl. iv, figs. 1-12.

Polyeunoa laevis, Bergström, 1916, p. 288, pl. iii, fig. 7.

Monro, 1930, p. 51.

OCCURRENCE. St. 599 (numerous); 600 (5); 652 (10); WS 33 (1); WS 228 (1); WS 246 (numerous); WS 773 (fragments); WS 824 (numerous); WS 825 (numerous); WS 840 (numerous); WS 841 (numerous); WS 871 (numerous); WS 877 (5).

SPECIFIC CHARACTERS. There is usually a reddish brown longitudinal dorsal stripe, and transverse markings more pronounced in the elytriferous segments than in the rest. Occasionally they are both absent, or one may be present and the other absent. Gravier (1911, p. 81) gives a good account of the colour pattern.

Tentacles and cirri are smooth. Prostomial peaks are very little developed. The elytra are smooth except for a small patch of minute tubercles. Behind the 31st chaetiger their arrangement is extremely variable, and segments with a cirrus on one side and an elytron on the other are very common.

The bristles are as described for the genus.

Family SIGALIONIDAE

1. No median tentacle	...	...	...	...	...	...	...	...	...	<i>Sigalion</i>
— With a median tentacle	...	...	...	...	...	...	...	...	...	2
2. With a dorsal cirrus on the 3rd chaetiger	...	...	...	...	...	...	...	...	...	<i>Psammolyce</i>
— Without a dorsal cirrus on the 3rd chaetiger	...	...	...	...	...	...	...	...	...	3
3. Ventral bristles compound falcigers	...	...	...	...	...	...	...	...	...	<i>Sthenelais</i>
— Ventral bristles compound spinigers	...	...	...	...	...	...	...	...	...	<i>Leanira</i>

Genus *Sigalion*, Audouin and Milne-Edwards

Body long and vermiform. Head oval, longer than broad. There is no median tentacle, and the lateral tentacles are reduced to small papillae inserted on the front margin of the head. The 1st chaetiger carries dorsal and ventral tentacular cirri, a pair of long palps and on each side two bundles of simple bristles. There is a cirriform branchia on all segments behind about the 5th. The dorsal bristles are simple and denticulated. The ventral bristles are both simple and compound, the latter with short and single-jointed shafts or long and multi-articulate shafts. The elytra are furnished with pinnate papillae on the outer margin.

Sigalion ovigerum, Monro (Fig. 12 *a-d*).

Monro, 1924, p. 47, figs. 10-11.

OCCURRENCE. St. 936 (New Zealand) (1).

SPECIFIC CHARACTERS. The specimen is an anterior fragment measuring 60 mm. by 2 mm. without the feet for 135 chaetigers. This species is chiefly characterized by the absence of compound bristles with simple single-jointed blades, all the compound neuropodial bristles being multi-articulate. The prostomium (Fig. 12 *a*) is an oval plate with two pairs of minute eyes, one behind the other. There is a pair of papilliform lateral tentacles lying above the 1st chaetiger, and a facial tubercle on the under surface of the head. The dorsal cirrus of the 1st chaetiger is shorter than the head and the ventral is a little longer than this. They are about one-fourth of the length of the palps. The branchiae appear as slender papillae on the 3rd and 4th chaetigers and are fully developed by the 5th foot. The elytra are smooth and their posterior border is furnished with about a dozen pinnate papillae (Fig. 12 *b*) with cylindrical branches, which are about 10-15 in number. There is no sign of the modification of the elytra into pouches containing eggs recorded in the specimen from Port Jackson.

The dorsal ramus (Monro, *loc. cit.*, fig. 10) carries three ctenidia and a long cirriform stylode at its apex. The dorsal bristles are long, slender, capillary and denticulated and have very delicate bidentate tips. The neuropodium has a small papilla probably a bract, on its upper face. Above the neuropodial aciculum there are four kinds of bristles: (1) about half a dozen simple barbed bristles tapering to a point; (2) slender multi-articulate compound bristles (Fig. 12 *c*) with rows of teeth at the head of the shaft; (3) one or two compound multi-articulate bristles (Fig. 12 *d*) with smooth, curiously expanded, rounded, fist-shaped apices to the shaft: in these the manner of articulation between shaft and blade is obscure; (4) slender multi-articulate compound bristles with normal, smooth tops to the shafts.

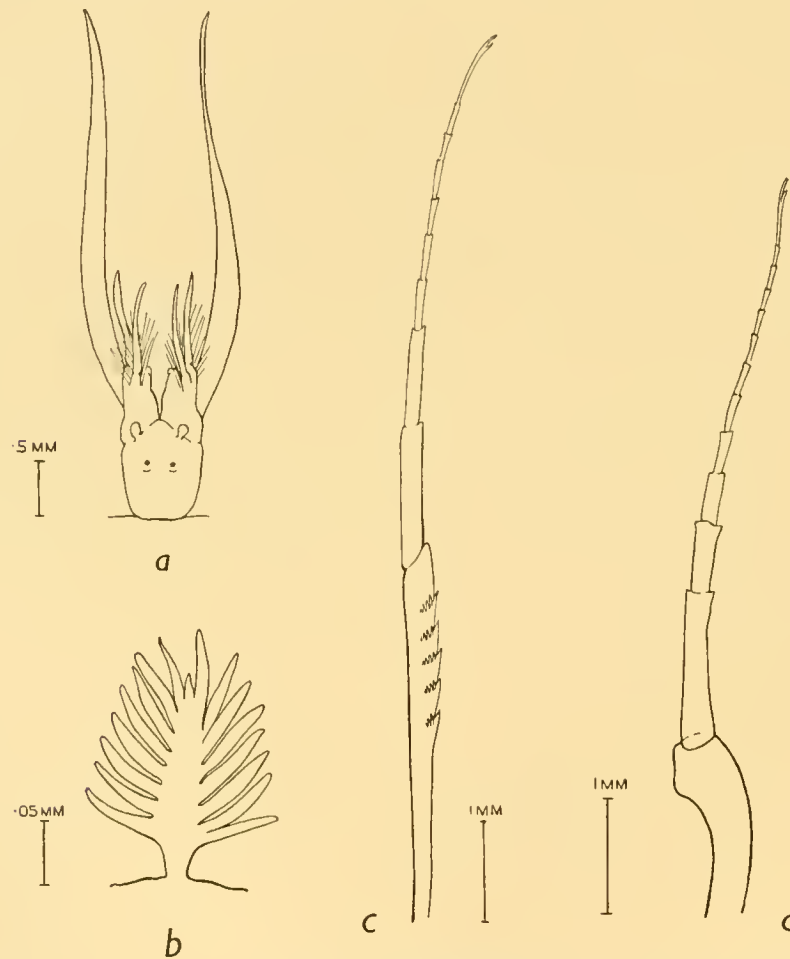


Fig. 12. *Sigalion ovigerum*.

a. Head.

b. Pinnate papilla from elytron.

c. Multi-articulate bristle with toothed shaft.

d. Special multi-articulate bristle.

Below the neuropodial aciculum the bristles are all multi-articulate with very long and delicate blades ending like the rest in a beak-like apex. They are thinner than the supra-acicular compound bristles, and the individual articles are longer. The tops of the shafts are smooth. The ventral cirri are subulate and reach to the end of the feet.

REMARKS. I know no other *Sigalion* in which there are no compound bristles with single-jointed blades.

Genus *Leanira*, Kinberg

Body long and slender with numerous segments. There is a median tentacle which usually has a ceratophore and a pair of ctenidia. The lateral tentacles are fused with the first foot, which carries dorsal and ventral tentacular cirri, a bundle of simple bristles, a cephalic scoop and a prebuccal lamella. There is a pair of long palps. Cirriform gills are present on all segments except a few in the anterior region. The dorsal bristles are simple capillaries with spiral whorls of teeth. The ventral bristles are compound spinigers with canaliculate blades.

Leanira quatrefagesi, Kinberg (Fig. 13).

Kinberg, 1857, p. 30, pl. ix, fig. 42 *a-e*.

Ehlers, 1901, p. 59, pl. 5, fig. 8.

Monro, 1924, p. 46.

OCCURRENCE. St. WS 214 (1); WS 770 (1).

SPECIFIC CHARACTERS. Body long, rectangular in section. Neither of the specimens is complete, but that from St. WS 770 is large and measures 185 mm. by 3 mm. without the feet for 140 chaetigers. The head (Fig. 13) is rectangular, broader than long, and towards the hinder border there is some diffuse black pigment, which may be ocular pigment. Beginning in the hinder third of the prostomium there is a kind of raised ridge running forward to the end of the head and continuous with the median tentacle. This I take to be the ceratophore of the median tentacle fused with the head. The median tentacle is spindle-shaped, shorter than the head, and tapers to a fine tip. I see no ctenidia in connection with the median tentacle. The lateral tentacles arise from the dorsal surface of the first foot at the junction between the foot and the head and are similar in form to the median. The first foot also carries a dorsal cirrus, reaching back to about the 4th chaetiger, a ventral cirrus about one-third as long as the dorsal, and a bundle of long capillary bristles. The palps are very long, reaching back well beyond the 10th chaetiger. At the base of the first pair of feet there is a cephalic scoop and a prebuccal lamella.

The elytra are tinged with orange-brown. They are without cilia or papillae, being quite smooth. The cirriform gills appear as small papillae on about the 20th chaetiger and reach their full development about 10 chaetigers further back.

The feet are figured both by Kinberg and by Ehlers. Neither of these authors record parapodial ctenidia, and I failed to find any on the material obtained in the Straits of



Fig. 13. *Leanira quatrefagesi*.
Head from above.

Magellan by the Alert Expedition (Monro, *loc. cit.*, 1924). In the smaller specimen from St. WS 214 they are again not apparent, but in the large fragment from St WS 770 two ctenidia are clearly visible on the upper surface of the feet. Stylodes are numerous, there being about half a dozen in each ramus.

The dorsal bristles are of two kinds, the one very fine, long, minutely hispid capillaries; the other stouter and with spiral whorls of small teeth. It is possible that the former of these two types of bristles is only a more delicate form of the latter, but even under a very high magnification I cannot see whorls of teeth. The ventral bristles are typical of the genus. They are compound, with pointed, canaliculated blades.

REMARKS. This is the genotype of Kinberg's *Leanira*. Willey's genus *Sthenolepis* covers those *Leanira* which have a median tentacle having a ceratophore and ctenidia; and Willey wishes to restrict *Leanira* to those species which lack the ceratophore and tentacular ctenidia. It is noteworthy therefore that Kinberg's genotype probably has a median ceratophore, but whether the prostomial ridge with which the median tentacle is continuous is in fact a ceratophore seems to me to be not yet settled. Anyhow I agree with Horst and Fauvel that *Sthenolepis* is unjustified.

Genus *Psammolyce*, Kinberg

Body long, vermiform. Median tentacle on anterior margin of head. No tentacular ctenidia. Lateral tentacles attached to first foot. A dorsal cirrus on the 3rd chaetiger. Cirriform branchiae on every foot except the first. The back and elytra coated with sand-grains. Dorsal bristles slender, barbed capillaries. Ventral bristles compound falcigers.

Psammolyce semiglabra, n.sp. (Fig. 14 a-g).

OCCURRENCE. St. 936 (New Zealand) (1).

DESCRIPTION. The single anterior fragment measures 55 mm. by 7 mm. without the feet for 65 chaetigers. In spirit the dorsal surface is colourless for about the first 20 chaetigers; behind this it is pale brown, the colour deepening from before backwards. The ventral surface is a uniform pale brown except in the neighbourhood of the head. The body is quadrangular in section and somewhat convex dorsally. On the ventral surface there is a deep median longitudinal groove, and on the dorsal surface there is also a slight median longitudinal depression which may be an artefact. The first three pairs of elytra almost meet in the median line, but over most of the body the elytra cover the deep sides of the body and leave most of the dorsum bare. About the first 30 segments are dorsally almost free from adhesive papillae and sand-grains: further back they are rather sparsely dotted over the dorsum, being most abundant in the region of the apex of the elytra. They increase considerably in density from before backwards. The ventral surface is covered with small, globular papillae. *There are no filiform papillae on the ventral surface.*

The first pair of elytra are lost: they probably concealed the head. The prostomium (Fig. 14 a) is long, soft, and conical and ends in a small median tentacle, about one-third as long as the head. At about its middle and on its lateral edges there are two pairs

of almost invisible eyes lying one beneath the other. A large part of the head is covered by a dorsal fold from the following segment. The first pair of feet carry the lateral tentacles, which are about equal in length to the head, a dorsal cirrus a little longer than the lateral tentacles, a ventral cirrus of about twice this length, and a bundle of long, slender bristles. The palps are about three times as long as the ventral cirrus of the 1st

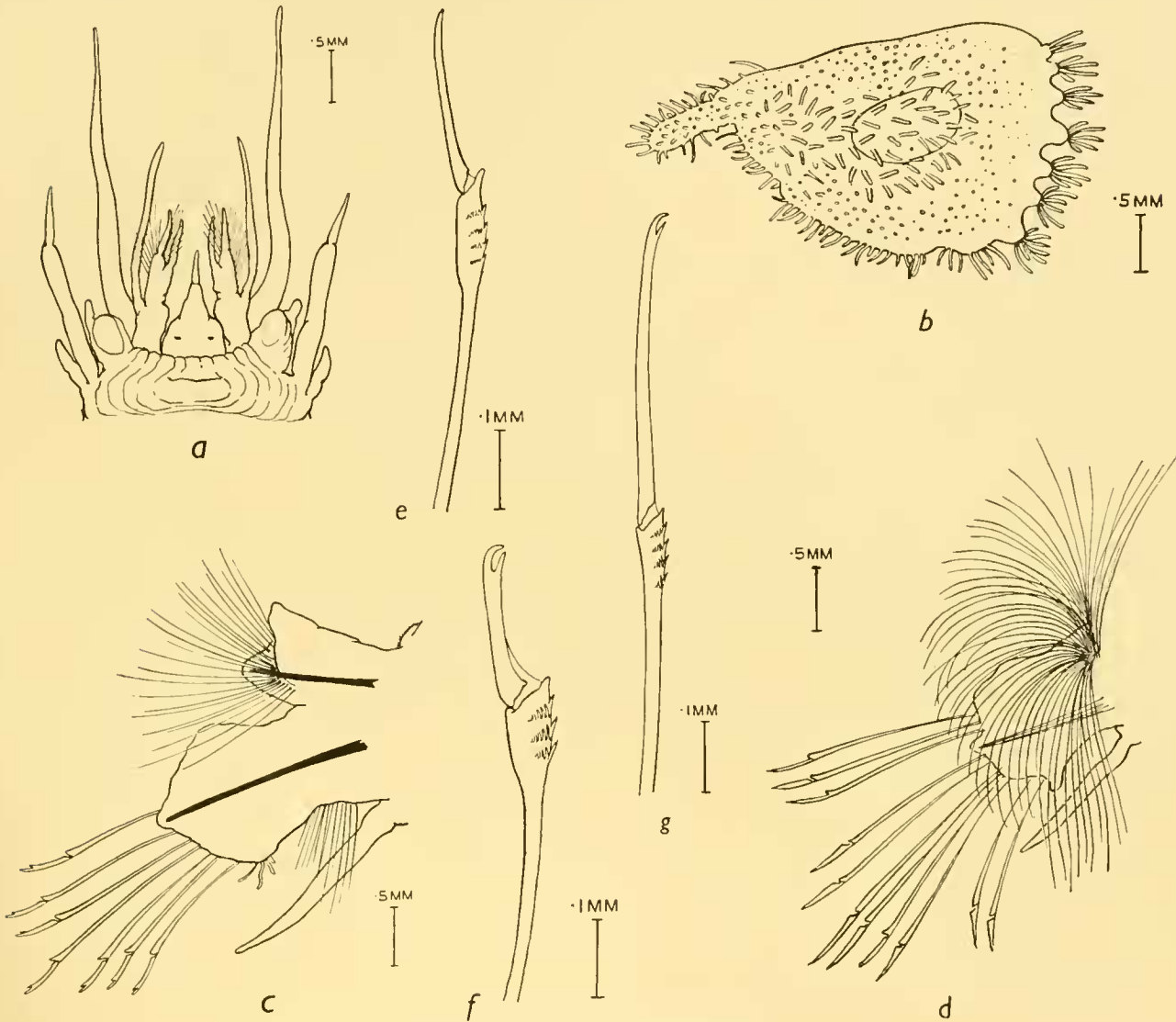


Fig. 14. *Psammolyce semiglabra*.

- | | |
|---------------------------------|---------------------------------------|
| a. Head from above. | e. Unidentate ventral bristle. |
| b. Elytron from middle of body. | f. Shorter bidentate ventral bristle. |
| c. Middle foot from in front. | g. Longer bidentate ventral bristle. |
| d. Middle foot from behind. | |

chaetiger. The 2nd chaetiger bears the first pair of elytra, a short branchia and a long ventral cirrus. The 3rd chaetiger carries a pair of dorsal cirri long enough to reach to the tips of the bristles. In these cirri the style is only about half as long as the ceratophore, at the base of which there is a short branchia.

The elytra are borne on segments 2, 4, 5, 7, etc., to 27, after which they occur on every segment. They vary somewhat in shape according to their position in the body. In front they are reniform, but except for the first few segments they are semi-circular with the straight edge to the front (Fig. 14 *b*). At their most dorsal point there is a single club-shaped papillated process. This club-shaped process is absent from the first few scales and is not fully developed before about the 20th chaetiger. Except on its front face the scale is fringed with long adhesive papillae. These are not continuous on the lower border of the scale. This lower border has a wavy edge, and the papillae are gathered into bunches or tufts attached to the tops of the waves and from the emarginate parts of the border papillae are absent.

In addition to the marginal papillae the elytra carry numerous adhesive papillae and numerous small grape-like tubercles. The umbilicus is oval. Below each elytron there are a gill and a ctenidium. Above the dorsal ramus of the foot there is a semicircular membrane which may be a second ctenidium, but I have not succeeded in seeing any cilia.

The foot is triangular (Fig. 14 *c-d*). The dorsal ramus consists of an enormous fan-shaped bundle of slender barbed bristles situated on the hinder face of the neuropod. The dorsal bristles project almost as far below the ventral ramus as above it. The ventral bristles are variable, especially in regard to the presence or absence of a second tooth on the blades. The most usual arrangement is as follows. At the top of the neuropod there are usually about half a dozen bristles with rather long and slender blades with unidentate tips (Fig. 14 *e*). Below these the bristles are bidentate and the blades become rather stouter and shorter from above downwards as far as a short distance below the aciculum (Fig. 14 *f*). Below this and standing a little apart from the rest there is a bundle of much more slender bristles with long and delicate bidentate blades (Fig. 14 *g*). The articulation is heterogomph throughout, and the tops of the shafts are heavily denticulated.

At the base of the chaeta-sac there is a tuft of filiform processes that I take to be stylodes. The tapering ventral cirrus reaches to the end of the foot.

REMARKS. This species is related to *P. antipoda* (Schmarda), from which it differs in having no filiform papillae on the ventral surface and also in having the lower margin of the elytra wavy with the papillae gathered in tufts. In fact there is to my knowledge no other *Psammolyce* which has this combination of characters.

Genus *Sthenelais*, Kinberg

A long median tentacle with ctenidia at the base. Lateral tentacles reduced to small papillae on the dorsal surface of the first foot. Branchiae on every foot except the first few. Dorsal bristles spinous capillaries. Ventral bristles compound falcigers and also a few simple barbed chaetae.

Sthenelais limicola (Ehlers), var. *novae-zealandiae*, var. nov. (Fig. 15).

OCCURRENCE. St. 936, New Zealand (3).

VARIETAL CHARACTERS. The only difference that I can find between these specimens and a typical example of this species from northern European waters is that in the elytra from the middle of the body, on each side of the opening caused by the indentation of the scale on its outer border, there are two or three filiform papillae (Fig. 15) not present in the northern form. Moreover, the bract above the neuropodium is more flattened and tongue-shaped than in the stem-form and lacks the terminal stylode. Otherwise, in the shape of the head, in the form of the minute elytral vesicles and in the structure of the feet and bristles these specimens are indistinguishable from the European form.

I have not been able to compare the scales from the anterior region of the body, for these are all lost from the present specimens, which are in rather poor condition. They are all incomplete and the largest measures 20 mm. by 1 mm. without the feet for about 80 chaetigers.

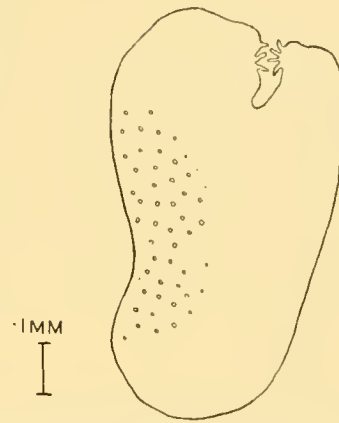


Fig. 15. *Sthenelais limicola*, var. *novae-zealandiae*. Elytron.

Family PHYLLODOCIDAE

1. Tentacular cirri three pairs	...	...	...	...	...	...	...	...	<i>Mystides</i>
— Tentacular cirri four pairs	...	...	...	...	...	...	...	...	2
— Tentacular cirri two pairs	...	...	...	...	...	...	...	...	4
2. With a median tentacle	...	...	...	...	...	...	...	...	<i>Eulalia</i>
— Without a median tentacle	...	...	...	...	...	...	...	...	3
3. First two tentacular segments fused. Body short and broad...	...	...	...	...	...	...	...	...	<i>Genetyllis</i>
— First two tentacular segments separate. Body long and narrow	...	...	...	...	...	...	...	...	<i>Phyllodoce</i>
4. Elongate, benthic animals	...	...	...	...	...	...	...	...	<i>Eteone</i>
— Short, pelagic animals	...	...	...	...	...	...	...	...	5
5. With foliaceous dorsal and ventral cirri	...	...	...	...	...	...	...	...	<i>Lopadorhynchus</i>
— With cylindrical dorsal and ventral cirri	...	...	...	...	...	...	...	...	<i>Pelagobia</i>

Genus *Phyllodoce*, Savigny

Body elongate with numerous segments. Head cordiform or oval. There are four tentacles. Papillae at base of proboscis either diffuse or arranged in longitudinal rows. Four pairs of tentacular cirri distributed over three more or less distinct segments. Feet uniramous or sesquiramous. Dorsal and ventral cirri foliaceous, variable in shape. Bristles compound.

1. Dorsal cirri ear-shaped or semicircular...	...	...	...	...	...	...	...	...	2
— Dorsal cirri oval, lanceolate or subrectangular	...	...	...	...	...	...	...	...	3
2. With eyes and with an aciculum in the dorsal cirrophore	...	...	...	...	...	...	...	...	<i>P. longipes</i>
— Without eyes and without an aciculum in the dorsal cirrophore	...	...	...	...	...	...	...	...	<i>P. bowersi</i>
3. With a pedal lobe and bristles in the third tentacular segment	...	...	...	...	...	...	...	...	<i>P. patagonica</i>
— Without a pedal lobe and bristles in the third tentacular segment	...	...	...	...	...	...	...	...	<i>P. madeirensis</i>

Phyllodoce longipes, Kinberg.

Monro, 1930, p. 73, fig. 21, with synonymy.

OCCURRENCE. St. WS 239 (1); WS 841 (1).

SPECIFIC CHARACTERS. The head is cordiform and has a nuchal papilla. The tentacular formula is $1 + B \frac{aI}{aI} + B \frac{aI}{aN}$. The feet are sesquiramous and have a small aciculum running up the broad dorsal cirrophore. The dorsal cirrus is more or less ear-shaped with the long axis at right angles to the cirrophore. The pedal lobe has a small digitiform process at its end, and the ventral cirri are large, foliaceous and pointed.

The papillation of the proboscis is unknown.

The most complete specimen of this species that I have seen is that described by me (*loc. cit.*) in 1930. This measured 110 mm. by 7 mm. including the feet for 140 chaetigers.

Phyllodoce patagonica (Kinberg).

Anaitides patagonica, Bergström, 1914, p. 147, fig. 46 *a-c*, with synonymy.

OCCURRENCE. St. WS 177 (1); WS 239 (2 juv.); WS 274 (1); WS 771 (6); WS 784 (1); WS 785 (1).

SPECIFIC CHARACTERS. A narrow, elongate species with up to about 200 chaetigers. A nuchal papilla is present and the tentacular formula is $1 + O \frac{aI}{aI} + B \frac{aI}{aN}$. In the first few segments the dorsal cirri are broadly lanceolate, but in the middle and hinder region they are more or less rectangular. The ventral cirrus tapers to a point. The papillae of the proboscis are arranged in 13 rows of which one is mid-dorsal and 12 are lateral. There are about five papillae in the mid-dorsal row and nine or ten in the lateral rows.

Phyllodoce madeirensis, Langerhans.

Fauvel, 1923, p. 150, fig. 53 *d-h*.

Benham, 1927, p. 74.

OCCURRENCE. St. 934, New Zealand (2).

SPECIFIC CHARACTERS. The head is cordiform and there is a nuchal papilla. The tentacular formula is $1 + O \frac{aI}{aI} + O \frac{aI}{aN}$. The dorsal cirri are very variable: they may be oval, lanceolate, asymmetrical, straight or incurved, or subrhomboidal. The ventral cirrus is oval and tapers to a point.

The proboscis carries on each side six lateral rows of 10-12 papillae and usually also a median row of four to six papillae.

In the present specimens the dorsal cirri are more or less symmetrically lanceolate. There is no median row of papillae.

REMARKS. I cannot agree that this species is the same as *P. patagonica*, Kinberg. In the first place in *P. patagonica* there is a small but distinctly developed pedal lobe with bristles in the third tentacular segment, which is wholly absent in *madeirensis*; and in the middle and hinder regions the dorsal cirri have a constant and characteristic subrectangular form.

Phyllodoce bowersi, Benham.

Benham, 1927, p. 77, pl. A, figs. 27-31.

Monro, 1930, p. 72.

OCCURRENCE. St. WS 215 (1).

SPECIFIC CHARACTERS. The present specimen is small, measuring only 14 mm. by 1 mm. for 63 chaetigers, whereas Benham's type measured 60 mm. by 2.5 mm. without the feet for 120 chaetigers. In spirit this is a cream-coloured species. The head is rounded, as broad as long, and there are no eyes. A nuchal papilla is present. The tentacular segments are distinct, and though I have not sufficient material to determine the tentacular formula I can report the presence of bristles in the second and third tentacular segments. The dorsal cirri are adherent, transversely elliptical in form and with an outer edge which is a continuous curve. The ventral cirri are large, oval and reach nearly to the end of the lobe. Bristles with long appendix and articular cup with one side produced into a long tapering process. Pharyngeal papillae arranged in six or seven regular longitudinal rows.

Genus *Eulalia*, Oersted

Body elongate with numerous segments. Head oval or conical. There are five tentacles. Proboscis smooth or diffusely papillated. Four pairs of tentacular cirri distributed over three segments. Feet uniramous. Pedal cirri foliaceous, cordiform, oval or lanceolate. Bristles compound.

Dorsal cirri thin and lanceolate; proboscis papillated...	...	...	...	...	<i>E. magalhaensis</i>
Dorsal cirri stout and ovate. Proboscis smooth	...	...	...	...	<i>E. picta</i>

Eulalia magalhaensis, Kinberg.

Steggoa magalhaensis, Bergström, 1914, p. 129, with synonymy.

Eulalia magalhaensis, Monro, 1930, p. 75.

OCCURRENCE. St. 53 (1).

SPECIFIC CHARACTERS. A rather elongate species with up to 350 chaetigers. There are two pairs of eyes behind the median tentacle. The proboscis is diffusely papillated. The tentacular formula is $1 + O \frac{01}{a1} + B \frac{a1}{aN}$, and the ventral cirrus of the second tentacular segment is foliaceous. The dorsal cirri are elongate and lanceolate, about three times as long as broad. The ventral cirri are oval and with blunt ends. I find that *Eulalia anomalochaeta*, mihi (1930), is the same as *Pterocirrus hunteri*, Benham (1921).

Eulalia picta, Kinberg.

Notalia picta, Bergström, 1914, p. 127, text-fig. 34, with synonymy.

OCCURRENCE. St. WS 804 (2).

SPECIFIC CHARACTERS. A slender, elongate species with (in spirit) a dark green body and brown cirri. The tentacular formula is (*fide* Bergström) $1 + B \frac{01}{a1} + B \frac{01}{aN}$, and the ventral cirrus of the second tentacular segment is stout and ventrally asymmetrical. The proboscis is smooth. The dorsal cirri are thick and ovate. The bristles have the head of the shaft denticulated and short end-pieces.

Genus *Genetyllis*, Malmgren, *char. emend.* Bergström.

Body short and rather broad. No median tentacle. Four pairs of tentacular cirri, either slender or spindle-shaped. The first tentacular segment is free of the head, and the first two tentacular segments are fused into a single structure carrying three pairs of tentacular cirri and a pedal lobe with bristles but no acicula. Dorsal cirri large and foliaceous; the ventral cirri are also foliaceous and curve ventrally upwards and downwards from behind the foot. The anal cirri are large and cylindrical.

Genetyllis polyphylla (Ehlers).

Bergström, 1914, p. 161, fig. 55, with synonymy.

OCCURRENCE. St. WS 27 (4); WS 123 (2); MS 64 (7).

SPECIFIC CHARACTERS. All the present specimens are damaged and the largest measures 16 mm. by 2 mm. for 54 chaetigers. The colour is reddish yellow with orange cirri. The head is rounded and longer than broad. There is a pair of large eyes. No nuchal papilla. The tentacular formula is $1 + B \frac{01}{01} + B \frac{01}{aN}$ (*fide* Bergström). The dorsal cirri are very asymmetrically cordiform with the apex pointing towards the dorsal median line. The ventral cirri are oval with the long axis pointing upwards and downwards. The bristles have short, rather broad end-pieces.

Genus *Eteone*, Savigny

Body elongate with numerous segments. Head triangular, truncated in front. Four tentacles, and on the first segment two pairs of tentacular cirri. The second segment has a foliaceous ventral cirrus, but no dorsal cirrus: it may have a pedal lobe with or without bristles. Dorsal and ventral cirri foliaceous. Proboscis smooth or carrying lateral rows of papillae.

Eteone sculpta, Ehlers.

Bergström, 1914, p. 195, text-fig. 73 *a, b*, with synonymy.

OCCURRENCE. St. WS 755 (1).

SPECIFIC CHARACTERS. The present specimen measures 19 mm. by 2 mm. for about 160 chaetigers. There are purple transverse segmental bands across the back and the cirri are yellow. The head is more or less rectangular, slightly longer than broad. The proboscis is smooth. The tentacular formula is $O \frac{01}{01}$. The second segment has bristles, but no dorsal cirrus. The dorsal cirri are broadly oval, thick and at their base about as broad as long. In the bristles one side of the articular cup is produced into a long finely denticulated process.

REMARKS. Augener (1932 *a*, p. 26) is, I think, justified in making *E. rubella*, Ehlers, a synonym of this species.

Genus *Lopadorhynchus*, Grube

Body short, head broader than long, two eyes and four tentacles. Two pairs of tentacular cirri and sometimes a third rudimentary pair on a single segment, which is

fused with the head and devoid of bristles. The first few chaetigers carry simple bristles with hooked ends, the remainder carry compound bristles and usually a few simple bristles. The pedal lobe is rounded and the dorsal and ventral cirri are foliaceous.

First two chaetigers very much larger than the rest and carrying a number of stout hooks surrounded by a sinuous collar *L. uncinatus*
 First two chaetigers slightly larger than the rest and carrying small hooks and no collar *L. krohnii*, var. *simplex*

Lopadorhynchus krohnii (Claparède), var *simplex*, Monro.

Monro, 1930, p. 79, fig. 23 *a, b*.

OCCURRENCE. St. 702 (1).

VARIETAL CHARACTERS. Up to about 10 mm. in length. In the younger specimens eyes are not visible, but in adults a pair is present as in the stem-form. The first two chaetigers have rather stout, cylindrical pedal lobes, about half a dozen simple bristles with hook-like ends, and no ventral cirri. The pedal lobes of the remaining chaetigers are flatter and have oval dorsal and ventral cirri. The bristles are arranged fan-wise and consist of paddle-shaped compound chaetae with oval blades denticulated on one edge. There are no simple hooks behind the second chaetiger. The absence of simple hooks from all chaetigers except the first two is the only substantial difference between the variety and the stem-form. The latter is described by Fauvel (1923, p. 185, fig. 68 *a-d*) and by Bergström (1914, p. 180, fig. 68 *a, b*). The present specimen is a young one, measuring only 5 mm. by 1 mm. without the feet for 20 chaetigers.

Lopadorhynchus uncinatus, Fauvel.

Fauvel, 1923, p. 184, fig. 67 *a-g*.

OCCURRENCE. St. 714 (1).

SPECIFIC CHARACTERS. The specimen measures 18 mm. by 2 mm. without the feet for 32 chaetigers. The head is broader than long and there are four tentacles. There are two pairs of tentacular cirri reaching back to the 2nd chaetiger and a third rudimentary pair situated at the base of the second pair. There is a pair of large eyes. The first two pairs of feet are very much larger than the rest, being very stout and rounded in section. They carry a number of large dark brown hooks which are surrounded by a delicate sinuous membrane. There is a small dorsal cirrus, but the ventral cirrus is absent. These first two chaetigers are clearly separated by a constriction from the rest of the body. The normal feet point backwards and consist of a lanceolate pedal lobe with a projecting aciculum, a large rounded vertical lamella, a stout, lanceolate dorsal cirrus and a conical ventral cirrus. The bristles have a fan-shaped arrangement and are all compound except in the 3rd chaetiger which has in addition a few simple bristles. The shafts end in a point, below which there is a kind of notch with which the broad paddle-shaped blade is articulated. This blade has a few delicate denticulations on one edge.

REMARKS. This specimen agrees in detail with Fauvel's description. I believe this to be the first record of this species from the South Atlantic.

Genus *Pelagobia*

Four tentacles. Two pairs of tentacular cirri, a dorsal and a ventral, borne by a single segment which also carries bristles. The dorsal cirrus of the 2nd chaetiger is reduced or absent. The feet are uniramous and carry slender, cylindrical dorsal and ventral cirri. The feet have a single aciculum and compound bristles with denticulated blades. The proboscis is smooth.

Pelagobia longicirrata, Greeff.

Fauvel, 1923, p. 192, fig. 72 *a-e*.

Augener, 1929, p. 291, with synonymy.

OCCURRENCE. St. 17 (6); 41A (3); 41B (6); 41D (5); 41E (4); WS 40 (4); WS 44, 1000-750 m. (1), and 750-500 m. (5); WS 555 (3).

SPECIFIC CHARACTERS. A small species measuring up to about 12 mm. in length with 25 chaetigers. The head is conical and truncated in front. There is a single pair of eyes. Four small thread-like tentacles. The two pairs of tentacular cirri are long and subulate and the first segment has a small pedal lobe with a few bristles. There is no dorsal cirrus on the 2nd chaetiger.

The following segments carry slender tapering dorsal and ventral cirri. The pedal lobe is conical and has an aciculum and numerous long, delicate compound bristles. These have the end-pieces denticulated, and often the head of the shaft also. The end-pieces have a delicate border on the side opposite the teeth.

REMARKS. I have examined the bristles of a random sample of these specimens and in none can I find any denticulation of the head of the chaetal shafts. In this they differ from the northern representatives of the species.

P. longicirrata is a very common species in the southern cold-water plankton. Augener found it in the Weddell Sea.

Genus *Mystides*, Théel

Small, elongate animals. The head is rounded. There is a pair of eyes and four tentacles. No median tentacle and no occipital papilla. Three pairs of tentacular cirri. The formula is $1 + B \frac{1}{1}$. The feet are uniramous. Dorsal and ventral cirri foliaceous or more or less globular. Bristles compound. Proboscis with soft papillae.

Mystides notialis, Ehlers.

Ehlers, 1913, p. 457, pl. xxix, figs. 1-4.

OCCURRENCE. St. WS 226 (1).

SPECIFIC CHARACTERS. The present specimen measures 13 mm. by 0.5 mm. for 52 chaetigers. It corresponds exactly to Ehlers' account. There is a pair of dark eyes and four very slender, transparent tentacles. The first segment is achaetous and carries a pair of tentacular cirri; the second segment has bristles and two pairs of tentacular cirri, a dorsal and a ventral. All the tentacular cirri are swollen towards the base and are apically slender and filiform. The normal dorsal and ventral cirri are more or less globular. The bristles are compound and have a bifid articulation. The head of the shaft

is scarcely, if at all, denticulated. The end-piece is very slender and rather short. There is a pair of globular anal cirri.

REMARKS. I find it impossible to decide whether this species is the same as Théel's *M. borealis* without a direct comparison, and unfortunately Théel's species is not represented in the museum collection. The present species has not been seen since its original description.

Family ALCIOPIDAE

1. Bristles all of one kind	...	...	...	...	...	...	...	...	...	2
Bristles of more than one kind	...	...	...	...	...	...	...	...	...	4
2. Bristles all long simple swimming chaetae	...	...	...	...	...	...	...	...	...	<i>Alciopa</i>
Bristles all long compound swimming chaetae	...	...	...	...	...	...	...	...	...	3
3. The foot has two cirriform terminal appendages	...	...	...	...	...	...	...	...	...	<i>Greeffia</i>
The foot has one cirriform terminal appendage	...	...	...	...	...	...	...	...	...	<i>Vanadis</i>
The foot has no cirriform terminal appendage	...	...	...	...	...	...	...	...	...	<i>Torrea</i>
4. Both long swimming chaetae and short acicular bristles present	...	...	...	...	...	...	...	...	...	5
5. Long swimming bristles simple...	...	...	...	...	...	...	...	...	...	<i>Callizonella</i>
Long swimming bristles compound	...	...	...	...	...	...	...	...	...	<i>Callizona</i>

Genus *Alciopa*, Audouin and Milne-Edwards

Body elongate and transparent. The head ends in a pair of enormous eyes. Five tentacles, of which the median is very small. Proboscis with a crown of papillae, of which the two lateral papillae are only slightly longer than the rest. Three pairs of tentacular cirri, followed by about three chaetigers with small undeveloped feet. In the female the dorsal cirri of the first pair of feet are converted into seminal pouches. Dorsal and ventral cirri are foliaceous. The pedal lobe has no terminal appendage. The bristles are all long, delicate, capillary and simple. Prominent segmental glands are present.

Alciopa cantrainii (Delle Chiaje).

Fauvel, 1923, p. 203, fig. 76 a-c.

OCCURRENCE. St. 707 (1).

SPECIFIC CHARACTERS. The characters of this species are those of the genus.

Genus *Vanadis*, Claparède

Long, cylindrical, transparent animals. The head ends in a pair of enormous eyes. The proboscis has a crown of long papillae. There are three to five pairs of tentacular cirri. In the female a few of the anterior dorsal cirri are converted into globular seminal pouches. The pedal lobe ends in a single cirriform process. The dorsal and ventral cirri are foliaceous. The bristles are all of a similar kind, very long, fine, transparent and compound. Prominent, deeply pigmented segmental glands are present.

1. Body colour purplish brown	...	...	...	...	...	...	...	...	...	<i>V. violacea</i>
Body colourless, transparent	...	...	...	...	...	...	...	...	...	2
2. With three pairs of tentacular cirri	...	...	...	...	...	...	...	...	...	<i>V. formosa</i>
With four pairs of tentacular cirri	...	...	...	...	...	...	...	...	...	3
3. The proboscis carries a pair of long, lateral cirriform processes	...	...	...	...	...	...	...	...	...	<i>V. crystallina</i>
The proboscis is devoid of cirriform processes	...	...	...	...	...	...	...	...	...	<i>V. antarctica</i>

Vanadis antarctica (McIntosh).

Alicopa antarctica, McIntosh, 1885, p. 175, pl. xxviii, figs. 2, 3, 4; pl. xxxii, fig. 12.

Vanadis antarctica, Benham, 1921, p. 58, pl. viii, figs. 61-63, with synonymy.

OCCURRENCE. St. 334 (1); 362 (1); 373 (1); 461c (1); 527 (3); 533 (1); 569 (1); 579 (1); 590 (1); 591 (1); 619 (1); 1148 (1); WS 200 (1); WS 408 (1); WS 411 (1); WS 537 (1); WS 550 (1); WS 551 (2); WS 552 (1).

SPECIFIC CHARACTERS. Four pairs of tentacular cirri, followed by about a dozen segments in which the feet are reduced in size, being smaller than the normal feet of the rest of the body. This area with reduced feet is nearly always pigmented and gives the animal a characteristic appearance of having a pigmented neck. In the female the first two feet have the dorsal cirri converted into seminal pouches. The mouth of the proboscis has only rather short papillae and is devoid of the pair of lateral tentacle-like processes present in *V. formosa*. The pigmented neck is followed by a short unpigmented area of about three segments, and this again by about three pigmented segments. Behind this the pigment is usually confined to the lateral glands and does not spread over the dorsum. The arrangement of the glands and their accompanying pigment is irregular up to about 30th-50th segment, behind which there is a pair of glands in each foot. There are the usual foliaceous dorsal and ventral cirri on the feet, and a lanceolate pedal lobe ending in a projecting aciculum and a small cirriform process. The bristles are very long and delicate and the articulation between shaft and blade very difficult to see.

This is a fairly large species with a breadth of about 5 mm. My most complete fragments measure about 150 mm. in length.

Vanadis formosa, Claparède.

Fauvel, 1923, p. 205, fig. 77 a-c.

OCCURRENCE. St. 404 (2); 407 (2); 701 (1); 704 (1); 705 (1); 713 (2); 714 (1 and 2 juv.).

SPECIFIC CHARACTERS. Four small digitiform lateral tentacles and a median tentacle. Three pairs of tentacular cirri. The mouth of the proboscis has, in addition to a number of rather short papillae, on each side a long tentacle-like process. In the female the dorsal cirri of the first two feet are converted into large globular seminal pouches. In the male the first foot is reduced to a dorsal and ventral cirrus. The remaining feet have a lanceolate pedal lobe with a long, projecting aciculum, foliaceous dorsal and ventral cirri and numerous very fine compound bristles. The pedal lobe ends in a small cirriform process. Every chaetiger, except the first three, carries a large dark brown gland.

REMARKS. In the colder waters of the southern hemisphere the place of this species is taken by *V. antarctica* (McIntosh).

Vanadis crystallina, Greeff.

Fauvel, 1923, p. 206, fig. 77 d, e.

OCCURRENCE. St. 708 (2); 709 (1).

SPECIFIC CHARACTERS. A small thread-like species with up to about 150 segments. The proboscis carries a pair of long lateral processes. Four pairs of tentacular cirri.

The fourth tentacular cirrus is foliaceous and much larger than the two preceding tentacular cirri. In the female the first foot only has the dorsal cirrus converted into a seminal pouch. About the first five feet behind the tentacular region are small and undeveloped and usually lack bristles. A normal foot consists of a lanceolate pedal lobe ending in a small cirriform process, a lanceolate dorsal cirrus and an oval ventral cirrus. The bristles are all very long, fine, compound capillaries. Segmental glands are found on every foot behind the second.

Vanadis violacea, Apstein.

Apstein, 1893, p. 143, pl. v, figs. 1-4.

OCCURRENCE. St. 413 (1); 419 (1).

SPECIFIC CHARACTERS. These specimens are fragmentary and the largest has a breadth of 3 mm. without the feet. The body has a less fragile and transparent appearance than that of most Alciopids, and recalls rather that of a bottom-living Phyllodocid. The colour is uniform purplish brown. The head extends beyond the eyes. The proboscis has a crown of small papillae and is devoid of lateral tentacle-like processes. There are three short stout pairs of tentacular cirri on separate segments. Of these the middle pair is twice as long as the other two in the present specimens. The fourth segment carries a foliaceous cirrus, below which is a minute process which I take to be a rudimentary pedal lobe. Whether this foliaceous cirrus of the fourth segment is to be regarded as a tentacular cirrus or as the first dorsal cirrus of the body is not clear. Apstein gives four pairs of tentacular cirri in his original description and three pairs in his Plankton Expedition paper of 1900. My own inclination is to give only three pairs of tentacular cirri and to treat the foliaceous cirrus of the fourth segment as part of the body region. The bristles begin with the fifth segment, in which the ventral cirrus is somewhat reduced.

The feet are stouter than is usual in the Alciopids. Normally there is a lanceolate pedal lobe ending in a small cirriform appendage, a large cordiform dorsal cirrus, and a broadly lanceolate ventral cirrus. The bristles consist of very numerous, long, compound capillaries. There are segmental glands both above and below the feet.

REMARKS. The colour and general aspect of solidity of this species are characteristic. The locality of the type specimen described by Apstein is not known.

Genus *Greeffia*, McIntosh

Body rather massive for an Alciopid and tapered posteriorly. The head does not extend beyond the eyes. There are five tentacles and a pair of enormous eyes. The proboscis carries a pair of long cirriform processes. There are three or four pairs of tentacular cirri. There are no undeveloped parapodia in the anterior region. The feet end in a pair of small, cirriform processes. The dorsal and ventral cirri are foliaceous. There are prominent segmental glands both dorsally and ventrally. The bristles are all slender, compound, capillary, swimming bristles.

Greeffia oahuensis, McIntosh.

McIntosh, 1885, p. 182, pl. xxviii, figs. 5-7; pl. xxxii, fig. 11; pl. xva, fig. 4.

Monro, 1930, p. 82, fig. 25.

OCCURRENCE. St. 413 (1).

SPECIFIC CHARACTERS. The largest example of this species known to me is a fragment measuring 39 mm. by 4 mm. without the feet for 48 chaetigers. The present specimen, also fragmentary, measures 13 mm. by 4 mm. without the feet for 30 chaetigers. In spirit the colour of the body is pale brown; the dorsal segmental glands are black and the ventral colourless; the pedal cirri are white. There are three pairs of tentacular cirri. The proboscis carries a pair of long cirriform lateral processes. The foot ends in a pair of subequal cirriform appendages. The dorsal cirri are large, imbricating and cordiform. The ventral are also large, and rounded. The prominent cushion-like segmental glands, which are present both above and below the feet, are not apparent in the first few segments. The chaetae are all slender, compound, capillary swimming bristles.

REMARKS. This species is distinguished from *G. celox* (Greeff) by the possession of three instead of four pairs of tentacular cirri.

Genus *Callizona*, Greeff

Body elongate, with numerous segments. The head extends beyond the eyes. There are five tentacles and a pair of enormous eyes. The proboscis has a crown of small papillae and is devoid of lateral tentacle-like processes. There are five pairs of tentacular cirri. There are no undeveloped parapodia in the anterior region. The feet end in a single cirriform process. The dorsal and ventral cirri are foliaceous. The bristles are of two kinds: (1) short acicular bristles which may be simple or compound; (2) long, capillary compound swimming bristles. Segmental glands are present.

Callizona angelini (Kinberg).

Fauvel, 1923, p. 215, fig. 81 *d-i*.

OCCURRENCE. St. 405 (1).

SPECIFIC CHARACTERS. A rather large species recorded up to 120 mm. in length. The present anterior fragment measures 2 mm. in breadth without the feet. The five pairs of tentacular cirri are massive and arranged as follows: $1 + \frac{1}{1} + \frac{1}{1}$. The imbricating dorsal cirri are cordiform anteriorly and more lanceolate farther back. The ventral cirri are oval or lanceolate. In the anterior feet the bristles are mostly rather short, stout and with a minute, slender end-piece; and with them there are a few slender spinigers. These are the extreme types and there is a tendency for one kind to grade into the other.

In the middle feet there are numerous, long, slender, compound swimming bristles and below these a single compound acicular bristle with a minute end-piece. Segmental glands are present from about the tenth foot backwards.

Genus *Callizonella*, Apstein

Body slender and elongate. The head, which extends beyond the two great eyes, carries five tentacles. The proboscis has a crown of small papillae. There are five pairs of tentacular cirri. There are no undeveloped feet behind the tentacular segments. The pedal lobe ends in a small cirriform appendage. The dorsal and ventral cirri are foliaceous. The bristles are of two kinds; long, delicate and capillary bristles and short and moderately stout bristles. The long capillary bristles are all simple, and the short acicular bristles may be either simple or compound. Segmental glands are present.

Callizonella bongraini (Gravier).

Callizona bongraini, Gravier, 1911, p. 70, pl. iv, figs. 39-43.

Benham, 1929, p. 189, pl. i, figs. 11-12.

Callizonella bongraini, Augener, 1929, p. 294, fig. 2 a-g.

OCCURRENCE. St. WS 555 (3).

SPECIFIC CHARACTERS. A small species measuring about 1 mm. in breadth and usually about 20 mm. in length. There are five pairs of tentacular cirri arranged as follows: $1 + \frac{1}{1} + \frac{1}{1}$. The ventral cirrus of the third tentacular segment is foliaceous. The feet end in a small, inconspicuous terminal process, and the dorsal and ventral cirri are foliaceous, more or less ovate. In a normal foot from the mid-body there are about a dozen long, fine, simple capillary bristles and below these a single short, acicular bristle. In the first few feet the bristles are all short and compound. They are of two kinds, and their differences are analogous to the differences between the falcigers and spinigers of the Nereids, to which bristles they have a general resemblance. Whether the simple acicular bristles in the normal feet are compound bristles that have lost their end-pieces it is impossible to be certain, but I do not believe this to be the case.

Segmental glands are present on every foot behind about the tenth.

Genus *Torrea*, Quatrefages

Body cylindrical, transparent. The head does not extend beyond the eyes. Five tentacles, the median being reduced to a small tubercle. A pair of enormous spherical eyes. There are three pairs of tentacular cirri and the first two chaetigers are rudimentary. In the female their dorsal cirri are transformed into seminal pouches. The proboscis has a crown of papillae and a pair of lateral cirriform processes. The feet have foliaceous dorsal and ventral cirri. The pedal lobe is without any terminal appendage. The bristles are all long, compound, capillary swimming bristles. Segmental glands are present.

Torrea candida (Delle Chiaje).

Asterope candida, Fauvel, 1923, p. 202, fig. 75 a-d.

OCCURRENCE. St. 714 (1).

SPECIFIC CHARACTERS. The characters of this species are those of the genus. The present specimen is a small anterior fragment measuring 8 mm. by 1 mm. for 24 chaetigers.

Family TOMOPTERIDAE

Genus *Tomopteris*, Eschscholtz

The parapodial trunks, i.e. the dorsal and ventral divisions of the feet, are bordered all round by membranous wings or pinnules.

In *Tomopteris*, *sensu stricto*, a tail is almost always absent, and also, in the adult, the first pair of chaetigerous appendages. Hyaline glands are usually present; and there are no rosettes.

1. There are no hyaline glands	...	...	...	...	...	...	...	...	<i>T. cavallii</i>
Hyaline glands are present on the ventral pinnules	...	...	...	...	...	...	...	...	2
2. Chromophil gland on a level with the tip of the ventral trunk	...	...	...	...	...	...	...	...	<i>T. septentrionalis</i>
Chromophil gland below the ventral trunk	...	...	...	...	...	...	...	...	3
3. A large species with the gonad in both rami of the feet	...	...	...	...	...	...	...	...	<i>T. carpenteri</i>
A small species with the gonad in the dorsal ramus only	...	...	...	...	...	...	...	...	<i>T. planktonis</i>

***Tomopteris (Tomopteris) carpenteri*, Quatrefages.**

Augener, 1929, p. 304.

OCCURRENCE. St. 124 (1); 128 (1); 133 (6); 136 (2); 138 (3); 139 (6); 160 (1); 374 (16); 459 (2 juv.); 460 (1); 527 (24); 567 (16); 1148 (3); WS 22 (2); WS 26 (3); WS 35 (5); WS 38 (1); WS 39 (1); WS 45 (1); WS 53 (1); WS 53B (1); WS 54 (1); WS 55 (1); WS 536 (5); WS 541 (2); WS 544 (3); WS 545 (1); WS 547 (1); WS 548 (1); WS 549 (2).

SPECIFIC CHARACTERS. A large species measuring up to 70 mm. in length for about 35 pairs of feet. The prostomium has no median notch. The neck is short and broad. The cerebral ganglion is transversely elongated and slightly bilobed. There is a single pair of black eyes, often invisible in the adult. The anterior pair of chaetigerous appendages is absent. The second pair is globular at the base and may reach back as far as three-fourths of the length of the body. The feet are conical, and the pinnules oval and rather long. The latter have their origin a short distance before the separation of the foot into its constituent rami. From the third foot backwards there is a conspicuous hyaline gland on the pinnule of the ventral ramus a little above and beyond the apex of the pedal trunk. From the fourth foot there is a very large chromophil gland lying below the apex of the pedal trunk in the ventral ramus. Genital products are found in both rami of the foot.

REMARKS. It is noteworthy that out of all these specimens there is not one that I recognized as a female. I do not claim to have "sexed" every specimen carefully, but in the adult examples the foot usually contains a flocculent white substance which penetrates into both trunks after the division of the foot into its two rami. This substance appears to be sperm, and I have never seen any ova in the feet. In other species, e.g. in *septentrionalis*, ova are very conspicuous, and I think I should have seen them if they had been present in *carpenteri*.

Augener records *T. planktonis* from the Weddell Sea and suggests that previous authors have confused it with *carpenteri*, to which in the arrangement of the pedal glands it is very similar. It is distinguishable by its very much smaller size—it reaches

a length of only about 10 mm. for 18 pairs of feet—by the fact that in *carpenteri* the pinnules are wrinkled and continued much farther up the feet, and by the presence of genital products only in the dorsal ramus of the foot. In practice it is not easy to distinguish a young specimen of *carpenteri* from *planktonis*, of which I have not seen an example in the present collection from south of the Antarctic convergence.

Tomopteris (Tomopteris) planktonis, Apstein.

Fauvel, 1923, p. 224, fig. 84 *d*.

Augener, 1929, p. 303.

OCCURRENCE. St. 707 (4); 710 (1); 714 (4).

SPECIFIC CHARACTERS. Up to about 10 mm. in length for 18 pairs of feet. There is no prostomial notch. The neck is wide and short. The cerebral ganglion is transversely elongate and bilobed, and there is a pair of black eyes. The first pair of chaetigerous appendages is absent. The second pair may reach back for three-fourths of the length of the body. The pinnules of the feet are oval and rather short. They begin a little distal to the point where the foot forks into its two rami. From the fourth foot backwards there is a large, spherical chromophil gland on the under surface of the pinnule of the ventral ramus below the ventral trunk. There is also a small, indistinct hyaline gland lying a little above and distal to the tip of the trunk of the ventral ramus. The gonad lies in the dorsal ramus.

REMARKS. I have commented on the relation of this species to *T. carpenteri* under the heading of the latter species.

Tomopteris (Tomopteris) cavallii, Rosa.

Fauvel, 1923, p. 222, fig. 84 *a*.

OCCURRENCE. St. 451 (5).

SPECIFIC CHARACTERS. Up to about 12 mm. in length for 20 pairs of feet. The prostomium is deeply notched in front. The cerebral ganglion is transversely elongate, oval. There is a pair of brown eyes. The first pair of chaetigerous appendages is absent and the second may reach back for two-thirds of the length of the body. The rami of the feet are not widely separated and the pinnules are broad and rounded. There is a large chromophil gland from the fourth foot backwards, on the under side of the pinnule of the ventral ramus below the tip of the ventral trunk. There are no hyaline glands. The gonad is confined to the dorsal ramus of the foot.

REMARKS. I cannot discover a hyaline gland in these specimens. Except for this, they are difficult to separate from *T. planktonis*.

Tomopteris (Tomopteris) septentrionalis, Quatrefages, *ex* Steenstrup.

Fauvel, 1923, p. 224, fig. 84 *d*, with synonymy.

Monro, 1930, p. 86.

OCCURRENCE. St. 41A (1); 100C (12); 130 (1); 137 (2); 268 (10); 446 (15); 448 (4); 449 (7); 450 (25); 453 (20); 454 (4); 455 (3); 459 (5); 460 (8); 514 (25); 567 (26); 707 (3); 714 (4); 716 (2); 718 (6); WS 20 (2).

SPECIFIC CHARACTERS. Up to about 15 mm. in length with 23 pairs of feet. The prostomium has a slight anterior notch. The cerebral ganglion is oval and bilobed. There

is a pair of brown eyes. The neck is wide and short. The first chaetigerous appendage is absent and the second may be almost as long as the body.

From the fourth foot backwards there is a chromophil gland in the ventral pinnule lying just beyond the apex of the ventral trunk. This gland is very variable in size, and may occupy the whole distance from the tip of the trunk to the end of the pinnule, or it may be a comparatively small structure lying just inside the border of the pinnule. There is a small and often indistinct hyaline gland lying above and behind the chromophil gland. The ventral surface of the neuropodial pinnule is furnished with numerous, fine, parallel tubules which appear to open at the ventral border of the pinnule. These tubules stain very readily, and constitute a diffuse extension of the chromophil gland. The gonad lies in the dorsal ramus of the foot.

REMARKS. This is an eurythermic species inhabiting the cold and temperate waters of both hemispheres.

Family TYPHLOSCOLECIDAE

A large lobe above the brain (caruncle)	...	...	...	...	...	...	...	...	<i>Travislopsis</i>
Cerebral lobe indistinct	...	...	...	...	...	...	...	...	<i>Sagitella</i>

Genus *Sagitella*, Wagner

Body cylindrical. Prostomium conical ending in a palpode. A lobe above the brain and paired nuchal organs. No vibratile cushions. The first three segments have each a single pair of foliaceous cirri, and the remaining segments have dorsal and ventral cirri. Bristles absent from the first few segments. The body ends in a pair of foliaceous anal cirri.

Sagitella lobifera, Ehlers (Fig. 16 *a, b*).

Ehlers, 1912, p. 24, pl. iii, figs. 1-4.

Monro, 1930, p. 90.

OCCURRENCE. St. 395 (11); 590 (3).

SPECIFIC CHARACTERS. Between 25 and 30 mm. in length by 3 mm. in breadth for 22 cirriferous segments. The colour in spirit is pale yellow or pale green. In life it is deep scarlet. The head is a sharply tapering cone and ends in a fili-form palpode (Fig. 16 *a*). There is a foliaceous cirrus on each side of the head and the following two segments have each only a single pair of cirri. As regards the nuchal organs, there is in the median line a single backwardly-directed tongue-shaped process, at the sides of which is a pair of backwardly-directed pinnate lobes about as long as the head. These pinnate lobes have up to five to six branches on each side of the main stem. Actually

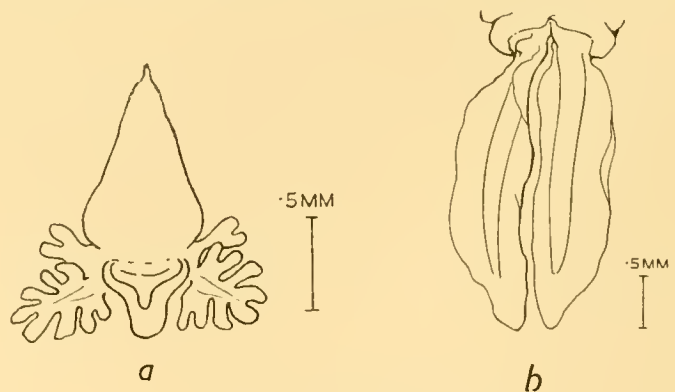


Fig. 16. *Sagitella lobifera*.

a. Head from above, cirri not shown.

b. Anal cirri.

these lobes are not quite symmetrical, for on the outer and anterior edge of the main stem there are one or two small branches which are not represented on the opposite side of the stem. If they were present they would be covered by the median tongue-shaped process.

Behind the first three segments there are paired dorsal and ventral cirri in each segment. In the present specimens the cirri are either lost or too much damaged for examination. Ehlers figures them as heart-shaped. The bristles begin at the sixth to seventh segment. The foot consists of an aciculum surrounded by a cylindrical sheath, beyond which the tip protrudes, and two or three simple bristles with curved ends. At the end of the body there is a pair of long, more or less oval, transparent anal cirri (Fig. 16 *b*) supported by a central hyaline process.

REMARKS. Both the hauls from which these specimens were taken were made below the 1000-m. line, and St. 395 yielded 11 specimens taken in a single haul at a depth of between 1500 and 1600 m. Augener (1929, p. 309) conjectures that this species is identical with *S. cornuta*, Ehlers. I do not agree with this, for *S. cornuta* has much simpler nuchal organs.

Genus *Travisiopsis*, Levinsen

There are no vibratile cushions. Above the brain there is a pad flanked on either side by the nuchal organs.

Travisiopsis benhami, n.sp. (Fig. 17 *a-c*).

Sagitella kowalewskii, Gravier, 1911, p. 74, pl. iii, figs. 30-32.

Ehlers, 1913, p. 526, pl. xxxix, fig. 15.

Benham, 1927, p. 80, pl. ii, figs. 33-34.

Monro, 1930, p. 89.

Nec Sagitella kowalewskii, Wagner.

OCCURRENCE. St. 151 (1); 575 (1); 588 (1); WS 351 (1); WS 549 (1); WS 555 (2).

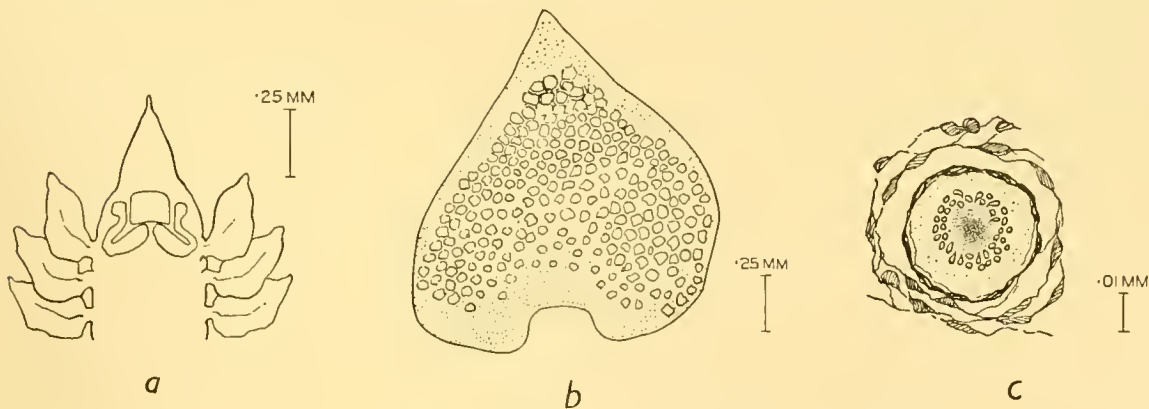


Fig. 17. *Travisiopsis benhami*.
a. Head from above. *b.* Cirrus. *c.* Sieve-cell.

SPECIFIC CHARACTERS. Up to about 25 mm. in length for 25 cirriferous segments. The head (Fig. 17 *a*) is conical and ends in a small palpode. It is followed by three short segments each bearing a single pair of foliaceous cirri. The remaining segments carry paired dorsal and ventral cirri. Above the cerebral ganglia there is a transversely

elongated, rectangular caruncle on each side of which the nuchal organs form a rounded lobe. These nuchal lobes are connected by a narrow neck at the sides of the head with paired semicircular nuchal processes lying at the outer and hinder angles of the caruncle. This condition is somewhat like that in *T. lobifera* except that the nuchal organs do not curve round in front of the caruncle. The everted proboscis is conical and about as long as the head.

The cirri (Fig. 17 *b*) in the mid-body have a very wide basal insertion. They are broadly triangular and their whole surface is a mass of rounded sieve cells (*cellules en tamis*) (Fig. 17 *c*). Towards the end of the body the cirri gradually lengthen out and become narrowly lanceolate. The bristles begin on the 12th–13th cirrigerous segment. They are simple, acicular bristles usually two in number in each foot and are separated by an aciculum, the point of which projects beyond the end of its sheath. At the end of the body there is a sort of tail fan, consisting of a pair of elongate, oval, anal cirri, each supported down the middle by a kind of hyaline process.

REMARKS. I have examined Benham's example from the Ross Sea, and although it is small and rather ill-preserved I believe it to be conspecific with these specimens. Gravier and Benham, working on poor material, have both in my opinion failed to interpret the structure of the nuchal organs and did not see the connection between the lateral and posterior nuchal lobes. The nuchal organs and caruncle in the present species are more those of a *Travisiopsis* than of a *Sagitella*. I have compared these specimens with an example of Wagner's *S. kowalewskii* from Madeira, and in my opinion it is a different species. The structure of the nuchal organs with the narrow connection between the anterior and posterior lobes is unlike that of any other *Travisiopsis*.

Family SYLLIDAE

1. No ventral cirri	<i>Autolytus</i>
With ventral cirri... ..	2
2. Dorsal cirri moniliform. Palps separate	3
Dorsal cirri unsegmented. Palps fused at their base	4
3. Body long, flat and ribbon-like	<i>Trypanosyllis</i>
Body short and subcylindrical	<i>Syllis</i>
4. Rim of pharynx smooth	<i>Pionosyllis</i>
Rim of pharynx denticulated	5
5. With a coiled pharynx. Nuchal epaulettes present	<i>Amblyosyllis</i>
Pharynx straight. No nuchal epaulettes	<i>Eusyllis</i>

Genus *Syllis*, Savigny

The palps are separate, not fused. The tentacles and dorsal cirri are moniliform. There is a single anterior pharyngeal tooth and the pharynx has a crown of soft papillae. The bristles are compound, with heterogomph unidentate or bidentate blades.

1. Bristles unidentate	<i>Syllis prolixa</i>
Bristles bidentate	2
2. Articulation between chaetal blade and shaft obscure. Dorsal cirri long and slender	<i>S. sclerolaema</i>
Articulation between chaetal blade and shaft obvious. Dorsal cirri short and spindle-shaped	<i>S. brachychaeta</i>

Syllis prolixa, Ehlers.

Ehlers, 1901, p. 92, pl. ix, figs. 1-7.

Monro, 1930, p. 100, fig. 32.

Syllis longifilis, Ehlers, 1901, p. 95, pl. x, fig. 3.

OCCURRENCE. St. 53 (numerous).

SPECIFIC CHARACTERS. Up to about 10 mm. in length. The back is marked by transverse brown bands. There is one band at each intersegment and another, widely interrupted in the median line, in the middle of each segment. The head is broader than long and there are two pairs of eyes. The pharyngeal tooth is terminal; and the pharynx extends to the 12th chaetiger and the proventriculus to the 22nd. The longer dorsal cirri have about 50 articles. The bristles are unidentate.

REMARKS. This species is very close to *Syllis vittata*, Grube.

Syllis sclerolaema, Ehlers.

Ehlers, 1901, p. 86, pl. x, figs. 1-2.

Monro, 1930, p. 102, fig. 35.

OCCURRENCE. St. WS 85 (7); WS 244 (1); WS 246 (2); WS 762 (2); WS 771 (numerous); WS 773 (4); WS 782 (4); WS 856 (2).

SPECIFIC CHARACTERS. Up to about 35 mm. in length. The head is very short, twice as broad as long. There are two pairs of minute eyes, the anterior larger than the hinder. The palps are very broad at the base. The pharynx extends to the 15th chaetiger and the proventriculus to the 22nd. There is a terminal tooth and a circlet of 10 papillae.

The dorsal cirri are inserted rather high up above the foot and the longer have about 40 articles. The difference between the longer and shorter dorsal cirri is not marked. There is a large and tapering ventral cirrus.

The foot is rounded in outline and has two unequal lips. It is supported by two or three acicula and carries a number of bristles, broad at the head of the shaft and with the articulation between blade and shaft obscure. The blade has the appearance of an uninterrupted continuation of the shaft (pseudopsiloid) and ends in a bidentate hook.

Syllis brachychaeta, Schmarda.

Augener, 1918, p. 247, pl. iv, figs. 83-85; pl. v, fig. 98; text-fig. 20.

Benham, 1927, p. 55.

OCCURRENCE. St. 190 (2).

SPECIFIC CHARACTERS. Up to about 30 mm. in length. The head is transversely oval and there are two pairs of eyes. The tooth lies in the front of the pharynx which extends to about the 10th chaetiger; the proventriculus reaches to about the 18th. The short dorsal cirri have a characteristic spindle-shaped appearance and are composed of about 12 articles. The bristles have rather short bidentate blades.

Genus *Trypanosyllis*, Claparède

Body flattened and ribbon-like. Palps clearly separated. Dorsal cirri moniliform. Pharynx with a crown of teeth and a single anterior tooth. Reproduction by stolons.

Bristles unidentate. Body colourless	...	...	...	...	...	...	<i>T. gigantea</i>
Bristles bidentate. Body striped	...	...	...	...	...	...	<i>T. taeniaeformis</i>

***Trypanosyllis gigantea* (McIntosh) (Fig. 18).**

Syllis gigantea, McIntosh, 1885, p. 193, pl. xxx, figs. 1-3; pl. xxxiii, fig. 4; pl. xa, fig. 14; pl. xxivA, fig. 7.

Trypanosyllis gigantea, Ehlers, 1901, p. 85, pl. vi, figs. 11-16.

Benham, 1927, p. 56, pl. i, fig. 1.

OCCURRENCE. St. 652 (1); WS 85 (1); WS 225 (11); WS 228 (1); WS 244 (2); WS 246 (3); WS 248 (3); WS 249 (1); WS 783 (1); WS 785 (2); WS 803 (2); WS 804 (2); WS 825 (1); WS 847 (1); WS 877 (1).

SPECIFIC CHARACTERS. A large flattened, ribbon-like species measuring up to 200 mm. in length. There are no colour markings except on the longer dorsal cirri, which are lilac. The head is bilobed and deeply incised behind. There are two pairs of large eyes. The median tentacle is about four times as long as the head, and the laterals about two-thirds of this. The dorsal tentacular cirrus is about a third as long again as the median tentacle and the ventral tentacular cirrus about one-half of this. The pharynx is thickly lined with chitin and has a crown of about 12 teeth, and also a single terminal pharyngeal tooth. This crown is surrounded by a circlet of 10 large papillae. In the anterior and posterior regions the longer of the alternating dorsal cirri are about two-thirds as long as the body is broad, and in the middle region they are equal to about half the breadth of the body. The shorter dorsal cirri are about two-thirds of the length of the longer. The feet are more or less lanceolate and are supported by three or four acicula. The bristles are unidentate. The ventral cirri are conical.



Fig. 18. *Trypanosyllis gigantea*.
Ventral view of head of stolon.

REMARKS. Two examples collected in September 1928 are in the "chain" phase. As in *T. zebra*, observed from the dorsal surface the stock and the stolons appear to be in complete continuity, and stolonization can be detected only from the ventral surface.

The two specimens exhibit different stages in stolonization, an earlier and a later. In the earlier stage the stolons, of which there are five, begin at the 200th segment. All that can be seen is on the ventral side a very narrow transverse ridge of tissue, with a pair of rudimentary tentacles at its outer edges, interrupting the continuity of the segments. The stolons have about 25 chaetigers. At this early stage I find it difficult, without sectioning, to discover the sex of these buds. I have seen no eggs. A little later stage (Fig. 18) is represented by the greater development of the pair of tentacles and by the appearance of a pair of eyes below the ventral cirri of the segment following the transverse ridge of tissue. In this specimen the stolons begin at the 290th chaetiger, and have 18 segments. Here again I can see no eggs.

Benham (*loc. cit.*) gives an account of a stolon at a much later stage.

Fauvel suggests that *T. gigantea* may be a giant form of *T. zebra*. I have had a lot of material of McIntosh's species through my hands, and I confess that I have seen nothing that leads me to support Fauvel's view.

Trypanosyllis taeniaeformis (Haswell) (Fig. 19).

Augener, 1913, p. 230, and 1924, p. 374.

Monro, 1933, p. 35.

OCCURRENCE. St. 929, New Zealand (2).

SPECIFIC CHARACTERS. A smaller species than *T. gigantea*. The larger specimen measures 45 mm. by 2 mm. for 183 chaetigers. There is a pair of orange brown, transverse, equal bands in each segment for about the anterior third of the body. The head is bilobed, slightly incised behind. There are two pairs of large eyes. The median tentacle is about three times as long as the head and the laterals two-thirds of this. Upper tentacular cirrus about a third as long again as the median tentacle and the lower about half this. The dorsal cirri are alternating and have a violet colour. The longer are about equal to the breadth of the body, and the shorter about two-thirds of this. The pharynx has a crown of about 10 teeth surrounded by a circlet of 12 papillae. The bristles are bidentate.

One of these specimens is in the chain phase. The stolon is not budded off from the last segment of the stock, but comes off from the 183rd chaetiger and leaves the tail-end of the stock folded underneath the ventral surface (Fig. 19). I cannot count the number of segments

in this tail piece, but it is equal in length to the five preceding chaetigers. The stolon is clearly marked off both dorsally and ventrally from the stock. It is a female bud filled with eggs and has 35 chaetigers. There are no swimming bristles and apparently no ventral cirri. I cannot see a trace of cephalization.

REMARKS. The specimens from Gorgona Island attributed by me to this species have smaller and more numerous papillae at the mouth of the pharynx, but I find them otherwise indistinguishable.

I believe this to be the first record of this species from New Zealand, where its place is usually taken by *T. picta*, Kinberg. The latter species is readily distinguishable by the presence of a large nuchal flap or gibbosity.

Genus Pionosyllis, Malmgren

Palps fused at the base. Tentacles and cirri smooth, non-moniliform. A single, anterior, pharyngeal tooth. The rim of the pharynx is smooth. Reproduction direct.

Anterior dorsal cirri very long	<i>P. comosa</i>
Anterior dorsal cirri short. Embryos carried on the back of the female ...	<i>P. nutrix</i>

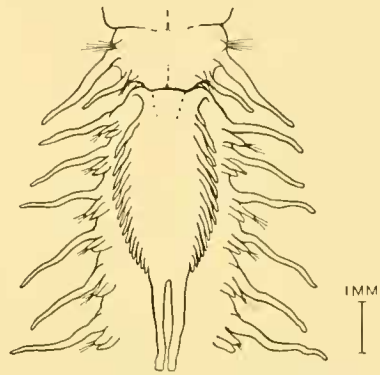


Fig. 19. *Trypanosyllis taeniaeformis*.
Ventral view of beginning of stolon.

Pionosyllis comosa, Gravier (Fig. 20).

Gravier, 1907, p. 15, pl. ii, figs. 12-13.

Benham, 1921, p. 22.

OCCURRENCE. St. 929, New Zealand (4).

SPECIFIC CHARACTERS. I have some hesitation in attributing these New Zealand specimens to Gravier's Antarctic species. They are all fragmentary and the largest measures 24 mm. by 2 mm. for 43 chaetigers. The body is dorsally arched, and in spirit there are no colour-markings. The head (Fig. 20) is about $1\frac{1}{2}$ times as long as broad. It is produced backwards into two long lobes divided by a deep median cleft, and behind the head there is a low nuchal collar. There are two pairs of orange-coloured eyes. The palps are fused at their base and the median tentacle is about three times as long as the head. The laterals are about two-thirds of this. There are two pairs of tentacular cirri. In the anterior region the dorsal cirri are very long, being equal to the length of about 12 segments in the front region. Over the rest of the body they are rather longer than the body is broad. The pharynx extends to the 13th chaetiger and the proventriculus to the 22nd. There is a single anterior tooth and the mouth of the pharynx appears to be quite smooth; there is a circle of papillae around the pharyngeal rim.

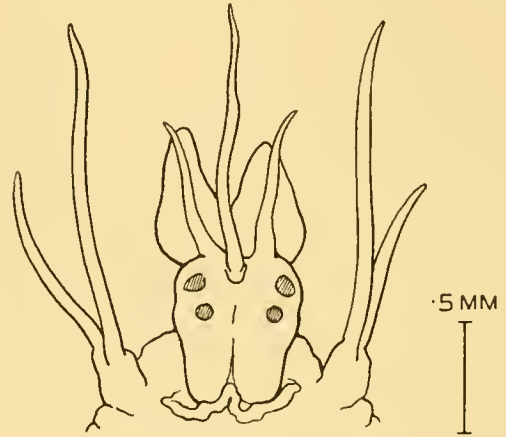


Fig. 20. *Pionosyllis comosa*.
Head from above.

The feet are rounded in outline and are supported by three curious acicula with blunt tips that are curved at the end. The bristles have stout denticulated and bidentate end-pieces, longer in the upper part of the foot than in the lower. The ventral cirri are rather stout, more or less conical structures, about as long as the feet.

One of the specimens is an epitocous female with swimming bristles beginning at the 19th chaetiger. The posterior region in all these examples is lacking, and I have seen no simple bristles.

REMARKS. I have compared these specimens with an example from South Georgia, and except for the great backward prolongation of the head I can find no ground for separation.

The shape of the head may be, to some extent at least, the result of post-mortem distortion. Moreover, Ehlers has attributed to this species some specimens in which the posterior cleft of the head is apparently entirely absent (Ehlers, 1913, p. 473). From this it would appear that the shape of the head, at any rate in preserved specimens, is subject to considerable variation.

Pionosyllis nutrix, n.sp. (Fig. 21 a-d).

OCCURRENCE. St. WS 564 (12).

SPECIFIC CHARACTERS. A small species measuring about 12 mm. in length for between 50 and 60 chaetigers. In spirit there is no colour. The head (Fig. 21 *a*) is broader than long and rounded in front. There are two pairs of eyes. The tentacles, tentacular cirri and the dorsal cirri throughout the body are all very similar in shape and size. They are simple, subulate structures, somewhat thickened basally and tapering to a point, and their size is about equal to half the breadth of the body. The ventral tentacular cirri are a little smaller than the rest.

The pharynx extends to about the 4th chaetiger and the proventriculus to the 10th. The pharyngeal tooth is anterior and the mouth of the pharynx is smooth and surrounded by a circlet of 10 papillae. The feet (Fig. 21 *b*) are more or less triangular in outline and supported by three acicula. The bristles are all bidentate and the end-pieces have a characteristic aspect, for the denticulations show a great increase in size from above downwards (Fig. 21 *c*). The ventral cirri are small and conical and scarcely reach to the end of the foot. There is a pair of pygidial cirri resembling the normal dorsal cirri.

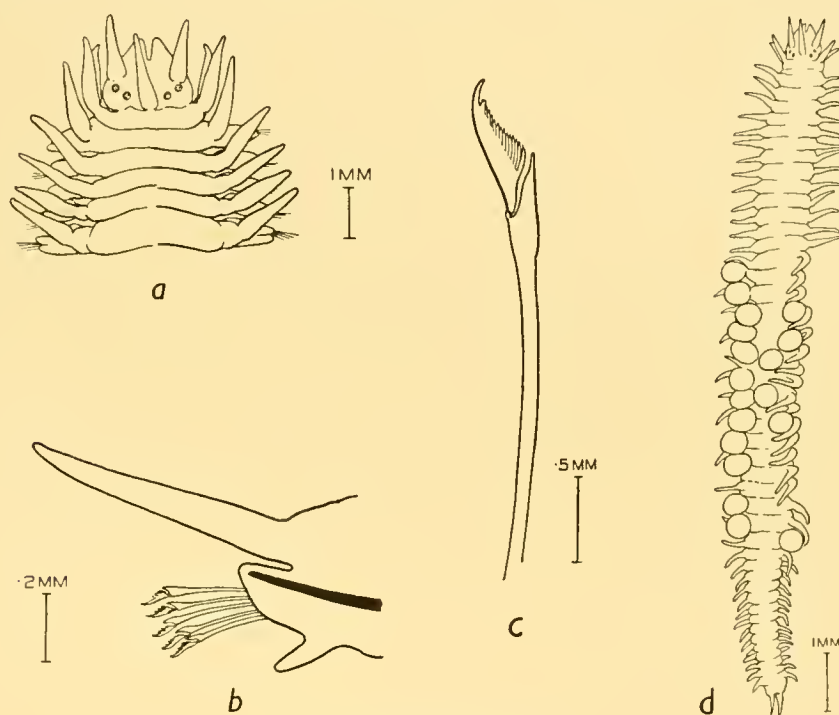


Fig. 21. *Pionosyllis nutrix*.

- | | |
|----------------------------|------------------------|
| <i>a.</i> Head from above. | <i>c.</i> Bristle. |
| <i>b.</i> Middle foot. | <i>d.</i> Dorsal view. |

A number of these specimens carry developing eggs on their backs (Fig. 21 *d*), the embryos being arranged in pairs, one pair to each segment.

REMARKS. This species is at once separable from the other southern members of the genus, *P. comosa*, Gravier, *P. maxima*, mihi, and *P. stylifera*, Ehlers, by the structure of the dorsal cirri and the bristles.

This is the first record of a *Pionosyllis* from southern waters carrying its embryos on its back.

Genus *Eusyllis*, Malmgren

Palps fused at the base. Tentacles and dorsal cirri smooth, but often appearing to have annulations. The rim of the pharynx is denticulated and there is also a single, anterior, pharyngeal tooth. Two rows of papillae round the mouth of the pharynx. The body is very fragile.

Eusyllis kerguelensis, McIntosh.

McIntosh, 1885, p. 191, pl. xxix, fig. 4; pl. xxxiii, fig. 3; pl. xva, fig. 13.

Gravier, 1907, p. 17, pl. ii, figs. 14-16.

Monro, 1930, p. 94, fig. 30 a-c.

OCCURRENCE. St. 53 (1); 190 (2); WS 811 (2); WS 836 (3); WS 837 (1); WS 856 (1).

SPECIFIC CHARACTERS. A massive species having the body dorsally arched. The head is rather broader than long, with two pairs of eyes between which run a pair of transverse prostomial ridges separated by the median tentacle. The head is deeply incised behind. The median tentacle is longer than the laterals. Tentacles and cirri are smooth.

The dorsal cirri are extremely long and the top of the foot is provided with a small languet. The two or three uppermost bristles in every foot have very long and slender bidentate end-pieces. The rest of the bristles have relatively short and broad end-pieces, also bidentate. The ventral cirri are broad and triangular.

The pharynx carries in addition to a single large terminal tooth a crown of nine chitinous teeth. This crown is encircled by a band of nine large papillae, behind which is a second band of nine flattened, semicircular papillae.

REMARKS. This species is very fragile and all my specimens are fragmentary.

Genus *Amblyosyllis*, Grube

Body short, composed of trapeziform segments with deep intersegmental constrictions. The palps are fused at their base. There is a pair of nuchal epaulettes. The pharynx is long and coiled and armed with a circlet of teeth. The tentacles and dorsal cirri are pseudo-moniliform. The penultimate segment is achaetous.

Amblyosyllis granosa, Ehlers.

Ehlers, 1897, p. 58, pl. iii, figs. 73-76.

Augener, 1913, p. 243, and 1923, p. 389.

OCCURRENCE. St. 929, New Zealand (1); WS 33 (1).

SPECIFIC CHARACTERS. From New Zealand there is a single somewhat ill-preserved specimen measuring 13 mm. in length for 15 segments of which 13 are chaetigers. The ground colour is pale yellow and there are here and there on the dorsum traces of what was probably dark transverse striping. In addition the dorsal surface is dotted with numerous small dark specks. The head is rounded and there are two pairs of large orange-coloured eyes and a pair of long digitiform nuchal organs pointing outwards. The palps are turned down underneath the head. The median tentacle is longer than the laterals. They and the very long dorsal cirri are apparently moniliform. The ventral

cirri are subulate and slightly longer than the feet. The bristles have long pectinate and bidentate end-pieces.

REMARKS. This specimen is larger than any hitherto recorded and the dorsal markings rather different. Nevertheless I believe it to belong to Ehlers' species. According to Ehlers the pharynx is very much coiled and there are no pharyngeal teeth. Augener has recorded this species from Shark's Bay.

The specimen from South Georgia may well belong to a different species, but with the material at my disposal I do not feel justified in making a separation. It measures 10 mm. for an equal number of chaetigers and is quite colourless. Moreover, the general aspect is rather different. The intersegmental constrictions are not so deep and the body is less fragile. Furthermore, the long tentacles and dorsal cirri are quite smooth and have no trace of the constrictions present in the New Zealand specimen and figured by Ehlers for *A. granosa*. The eyes, too, are of a darker red than in the New Zealand specimen, and the bidentate blades of the bristles are relatively longer and narrower. I have not been able to examine the pharynx, etc.

As far as external characters go, I can find nothing very definite to separate the two specimens.

Ehlers' *A. infuscata* from Juan Fernandez has no visible nuchal organs and has long slender ventral cirri quite different from the stout, asymmetrical ventral cirri of the present specimens.

Genus *Autolytus*, Grube

The palps are fused and have moved down to the ventral surface of the head. They are coalescent. Tentacles and dorsal cirri unsegmented. There are no ventral cirri. The pharynx is more or less coiled and usually has a crown of teeth. The end-pieces of the bristles extremely small, rudimentary. Reproduction by stolons, which differ from the stock and are sexually dimorphic. The male (*Polybostrichus*) has bifid palps, three tentacles, one or two pairs of tentacular cirri, and swimming bristles in a number of segments. The female (*Sacconereis*) has no palps, three tentacles, one or two pairs of tentacular cirri, swimming bristles, and carries her eggs in a large sac attached to the ventral surface.

With large nuchal epaulettes	...	...	...	...	...	...	...	...	<i>A. charcoti</i>
Nuchal organs not apparent	...	...	...	...	...	...	...	...	<i>A. simplex</i>

Autolytus charcoti, Gravier (Fig. 22).

Gravier, 1907, p. 7, pl. i, figs. 1-2.

Benham, 1921, p. 27, pl. v, figs. 7-10.

Monro, 1930, p. 97.

OCCURRENCE. St. 42 (1); WS 27 (2); WS 228 (1).

SPECIFIC CHARACTERS. All these specimens are in rather poor condition. That from St. 42 was preserved in a membranous tube entangled in the branches of a hydroid. The largest measures 24 mm. by 3 mm. for between 90 and 100 chaetigers. The body is marked by reddish brown transverse segmental bands, and in some specimens the dorsal cirri also partly have this colour. The head is broader than long and has two pairs

of eyes. There is a characteristic pair of divergent nuchal epaulettes reaching back to the 3rd chaetiger. The tentacles and tentacular cirri are long and unconstricted. The normal dorsal cirri are about half as long as the body is broad. According to Benham the pharynx extends back to the 7th chaetiger, where it bends forward on itself, and turns back to enter the proventriculus, which occupies segments 10-14.

The pedal lobes form large, rounded prominences above the bristles, and glandular pads are present on the ventral surface.

The bristles are bidentate and have the head of the shaft denticulated. Gravier states that there is also in each foot a single, simple capillary bristle. These I have not seen.

Sacconereis

The specimen from St. WS 228 is a ripe female measuring 18 mm. by 1 mm. for about 70 chaetigers. There are swimming bristles from the 15th to the 35th chaetigers, and the anterior pair of eyes is greatly enlarged, so as to extend down the sides of the head to the ventral surface. Otherwise it is not modified.

Polybostrichus

The specimen from St. 42 is a ripe male beginning to turn into a *Polybostrichus*. Only the head shows signs of modification. The normal eyes have disappeared and their place is taken by a single pair of dark eyes rather deeply embedded in the sides of the head. The anterior pair of appendages shows signs of forking towards its base, or to be more exact, a pair of stout conical lobes appear to have grown out from the head at the point of insertion of the lateral tentacles and to have carried the latter with them attached to the bottom of their outer faces (Fig. 22). In the light of the controversy as to the homology of the anterior bifid appendages in *Polybostrichus* it may be worth remarking that the true palps do not seem to be involved in this process at all. Behind these bifid appendages there is a pair of small, rounded lobes which I take to be rudiments of lateral tentacles. The body colour is more intense than in any atocous specimen that I have seen.

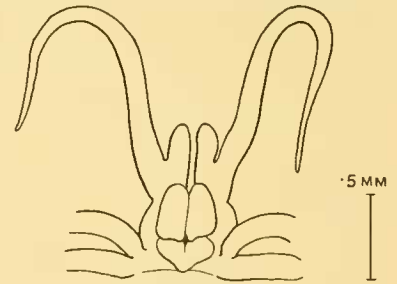


Fig. 22. *Autolytus charcoti* (*Polybostrichus*). Ventral view of head showing palps and forking of lateral tentacles.

REMARKS. Of the southern cold-water species *A. simplex*, Ehlers, *A. gibber*, Ehlers, *A. maclearanus*, McIntosh, and *A. charcoti*, Gravier, the last is the only one with nuchal epaulettes.

Autolytus simplex, Ehlers.

Ehlers, 1901, p. 97, pl. x, figs. 5-8.

Fauvel, 1916, p. 430.

Monro, 1930, p. 97.

OCCURRENCE. St. 53 (numerous).

SPECIFIC CHARACTERS. A very large number of examples of this small species were obtained from washings from Hydroid and *Mytilus* clumps. The size is up to about

10 mm. in length. In some specimens traces of longitudinal dark markings are visible on each side of the body just above the feet. The head is rounded and the two pairs of eyes are almost contiguous. The tentacles, tentacular cirri and the dorsal cirrus of the 1st chaetiger are all very long and indistinctly annulated. The normal dorsal cirri are smooth, short and stumpy, and are equal in length to about half the breadth of the body. The pharynx extends to about the 8th chaetiger and the proventriculus to about the 12th. The pharynx appears to be unarmed and runs past the mouth of the proventriculus, looping back to enter it. The bristles are clearly bidentate with a very well-developed second tooth, so much so that the second tooth is as large as, if not larger than the apical tooth.

Bayonet bristles are present, but only discoverable under a very high magnification.

Polybostrichus

Among these specimens there was a single ripe male. It measures about 4 mm. in length for 28 chaetigers, of which the first six are unmodified. The head is round and deeply notched in front and the rather slender bifid palps are turned backwards at the sides in a manner that recalls the anterior tentacles of the Tomopterids. There are two pairs of red eyes, a dorsal and a ventral, the ventral being considerably the larger. Behind the dorsal eyes there is a minute pair of lateral tentacles. The median tentacle is about the same length as the palps and reaches back to about the 10th chaetiger. The dorsal tentacular cirri are very long and the single remaining ventral tentacular cirrus is a very slender filiform process about as long as the body is broad. All the modified segments bear long swimming bristles.

Polybostrichus sp.? (Fig. 23).

OCURRENCE. St. WS 832 (1).

DESCRIPTION. The specimen measures 9 mm. by 1 mm. for 64 chaetigers, of which the first 14 and the last 20 are unmodified. The colour is a pale brown and the head appendages are white except for the median tentacle and the dorsal cirri of the 1st chaetiger, which are also brown but paler than the body. The head is rather longer than broad and the very wide, flattened proximal areas of the modified, bifid palps are in contact at their base. There are the usual two pairs of large eyes, a dorsal and a ventral. At the inner and hinder corners of the dorsal eyes is a pair of small, slender lateral tentacles, and behind these medially is a large, stout median tentacle reaching back to the end of the anterior unmodified region. Squeezed in at the sides between the head and the 1st chaetiger, there are two pairs of slender tentacular cirri, the dorsal about twice the length of the ventral. The dorsal cirri of the 1st chaetiger are relatively enormous and reach back to about the 20th chaetiger. The dorsal cirri of the following three or four chaetigers are much smaller and equal in length the dorsal tentacular

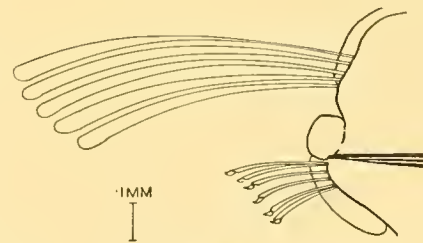


Fig. 23. *Polybostrichus* sp. Foot with swimming bristles; dorsal cirrus omitted.

cirrus. The normal dorsal cirri are about half as long as the body is broad. All the modified segments carry swimming bristles (Fig. 23). There is a large rounded supra-chaetal lobe.

Otherwise there is nothing remarkable about the normal feet and bristles. The bristles are of the usual type, with the heads of the shafts denticulated and with the end-pieces very short and clearly bidentate.

REMARKS. I suspect this specimen of being the *Polybostrichus* of *Autolytus gibber*, Ehlers. It is clearly different from the *Polybostrichus* of *A. simplex* which is represented in the present collection. Nuchal epaulettes are present in the *Polybostrichus* of *A. charcoti*, and according to Ehlers (1913, p. 490) the *Polybostrichus* of *A. maclearanus* has a very differently shaped head with the median tentacle set in front of the dorsal eyes. The *Polybostrichus* of *A. longstaffi*, Ehlers, of which the atocous form is not known, has a head rather like that of the present specimen, but in the anterior region only the first six instead of the first 14 chaetigers remain unmodified. *Autolytus gibber*, Ehlers, is the only other *Autolytus* described from these waters, and it seems a probable assumption that the present specimen belongs to that species.

Family NEREIDAE

- | | | | | | | | | | | |
|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------------------|
| 1. Without paragnaths | ... | ... | ... | ... | ... | ... | ... | ... | ... | <i>Leptonereis</i> |
| With paragnaths | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 |
| 2. Horny paragnaths arranged in pectinate rows | ... | ... | ... | ... | ... | ... | ... | ... | ... | <i>Platynereis</i> |
| Horny paragnaths conical and separated | ... | ... | ... | ... | ... | ... | ... | ... | ... | <i>Nereis</i> |

Genus *Nereis*, Cuvier

Body elongate and vermiform. Two ovoid palps, two tentacles and four pairs of tentacular cirri. Proboscis with separate, conical, horny paragnaths usually arranged in distinct groups. The feet are biramous. The bristles are compound and the end-pieces are either long, sharply pointed processes (spinigers) or relatively short, more or less curved blades (falcigers).

- | | | |
|---|-----|---|
| 1. Without paragnaths on the maxillary ring | ... | (Subgenus <i>Eunereis</i>) <i>N. (Eunereis) hardyi</i> |
| With paragnaths on the maxillary ring | ... | 2 |
| 2. With homogomph falcigers in the notopods of the hinder region | ... | 3 |
| Without homogomph falcigers in the notopods of the hinder region | ... | 4 |
| 3. Hinder notopodial falcigers bidentate or tridentate | ... | <i>N. jacksoni</i> |
| Hinder notopodial falcigers with simple, blunt tips | ... | <i>N. eugeniae</i> |
| 4. Paragnaths of oral ring in a single row | ... | <i>N. kerguelensis</i> |
| Paragnaths of oral ring in several rows | ... | 5 |
| 5. Paragnaths of oral ring a continuous band; three notopodial languets | ... | <i>N. cricognatha</i> |
| Paragnaths of oral ring discontinuous; two notopodial languets | ... | <i>N. callaoana</i> |

Nereis (Eunereis) hardyi, Monro.

Monro, 1930, p. 109, fig. 39 a-d.

OCCURRENCE. St. WS 755 (2); WS 756 (1); WS 797 (10); WS 811 (2); WS 834 (numerous); WS 841 (1); WS 847 (3); WS 848 (10).

SPECIFIC CHARACTERS. Size up to about 130 mm. by 5 mm. without the feet for 85 chaetigers. There are very distinct reddish brown markings on the head and back and the pedal glands are brown. There are no paragnaths on the maxillary ring. On the oral ring there is a pair of paragnaths side by side on group V. There is none on group VI. Groups VII and VIII consist of a single row of seven or eight rather large, widely spaced paragnaths.

In the anterior region the notopod has two conical dorsal languets of about the same size, between which is a third very small languet in contact with the bristles. The neuropodial chaeta-sac has two unequal lips, the anterior rounded and the posterior longer and conical. The ventral languet is broader and blunter than those of the dorsal branch. The dorsal cirrus extends for about half its length beyond the end of the upper dorsal languet, and the ventral cirrus is the same length as the ventral languet. In the hinder region the intermediate dorsal languet disappears: otherwise there is very little change. The dorsal bristle bundle contains homogomph spinigers, the upper ventral bundle homogomph spinigers and heterogomph falcigers and the lower ventral bundle a single heterogomph spiniger and heterogomph falcigers.

St. WS 756 yielded an epitocous female with the modified region beginning at the 20th chaetiger.

***Nereis cricognatha*, Ehlers.**

Ehlers, 1904, p. 29, pl. iv, figs. 3-7.

Augener, 1913, p. 163; and 1924, p. 334.

OCCURRENCE. St. 929, New Zealand (2).

SPECIFIC CHARACTERS. The larger specimen measures 70 mm. by 4 mm. for 60 chaetigers. The paragnaths have the following arrangement: (I) a square or lozenge shaped cluster; (II) an oblique, subtriangular band; (III) a transverse cluster; (IV) more or less triangular patches; (V), (VI), (VII) and (VIII) form an uninterrupted band of paragnaths about eight or nine deep. The dorsal ramus of the foot has three languets, of which the uppermost is considerably larger than the rest: it is triangular and with a very broad base. The intermediate is small, pointed and conical, and the lower languet is a little narrower and smaller than the upper. The dorsal cirrus is short and does not reach to the end of the upper languet.

The ventral ramus has a chaetal lobe with two rather unequal lips, a ventral languet of about the same length and a minute ventral cirrus set far back on the foot. In the hinder region the upper dorsal languet increases a little in size relatively to the lower, but it does not become either swollen or foliaceous.

The heterogomph falcigers have all rather long, knife-like blades with a hooked tip. I can see no heterogomph spinigers. The similarity of the present species to *N. caudata* has already been pointed out.

***Nereis callaoana*, Grube.**

Nereis angusta, Kinberg, 1857, p. 51, pl. xx, fig. 2.

Nereis callaoana, Augener, 1918, p. 184, with synonymy.

OCCURRENCE. St. 399, Gough Island (7).

SPECIFIC CHARACTERS. The largest specimen measures about 33 mm. in length for about 70 chaetigers: Augener records a specimen measuring 60 mm. in length for 87 chaetigers. The arrangement of the paragnaths is as follows: (I) one, or two or three in a longitudinal row; (II) rather small curved clusters; (III) a transverse cluster; (IV) curved clusters; (V) none or one; (VI) a pair of small usually cruciform patches; (VII) and (VIII) a somewhat irregular band of two or three rows.

In the notopods there is a pair of conical, subequal languets and a long dorsal cirrus extending for more than half its length beyond the foot. The ventral ramus has a blunt ventral languet and a short ventral cirrus. In the hinder region the languets are more slender and pointed. I find nothing distinctive in the bristles.

REMARKS. This species has been recorded from Chile and Peru, and from West Africa and the Cape. It is therefore not surprising to find it at Gough Island.

Nereis jacksoni, Kinberg.

Fauvel, 1932, p. 97, with synonymy.

OCCURRENCE. St. 929, New Zealand (10).

SPECIFIC CHARACTERS. Body very slender and elongate. There is no notch between the prostomial tentacles. The paragnaths are arranged as follows: (I) none; (II) curved rows; (III) a transverse patch; (IV) crescentic patches; (V) none; (VI) on each side a small group of minute paragnaths; (VII) and (VIII) a single row of about seven widely spaced paragnaths.

In the feet the dorsal ramus has two conical languets and a dorsal cirrus longer than the foot. The ventral chaetal lobe is rounded and there is a large blunt ventral languet. In the hinder region the dorsal languet is much reduced.

The ventral heterogomph falcigers have curved and ciliated end-pieces. In the middle and posterior regions the notopod carries one or two homogomph falcigers with bidentate or tridentate end-pieces.

REMARKS. The relation of this species to *N. kauderni* is discussed by Fauvel (*loc. cit.*). It seems to me that the grounds for separation are very slender.

Nereis eugeniae (Kinberg).

Ehlers, 1897, p. 67, pl. iv, figs. 94-105.

Monro, 1930, p. 104.

OCCURRENCE. St. 652 (2); WS 583 (10); WS 796 (2); WS 811 (10); WS 824 (1); WS 834 (10); WS 866 (4).

SPECIFIC CHARACTERS. Size up to about 170 mm. by 3 mm. without the feet for 125 chaetigers. The eyes are not very distinct. The arrangement of the paragnaths is as follows: (I) none; (II) a small subtriangular patch; (III) absent, or a few sparse paragnaths; (IV) an oblique distichous mass; (V) none or one; (VI) on each side a small patch of three or four paragnaths; (VII) and (VIII) either absent or a single sparse rather irregular row.

In the anterior region the dorsal ramus of the foot has a pair of triangular languets, the upper longer than the lower, and a very small chaetal lobe. The ventral ramus has a

rather large chaetal lobe with rounded lips and a blunt ventral languet. The dorsal cirrus is considerably longer than the dorsal languet and the ventral cirrus is about the same length as the ventral languet. In the hinder region the languets are more elongate and narrower.

The dorsal bristle bundle in the anterior region has homogomph spinigers; the upper ventral bundle has homogomph spinigers and heterogomph falcigers, and the lower ventral bundle has heterogomph spinigers and heterogomph falcigers. In the hinder region the homogomph spinigers of the notopodium disappear and their place is taken by two or three homogomph falcigers with very short, blunt end-pieces.

St. WS 834 yielded an epitocous male with the modified region beginning at the 32nd chaetiger.

Nereis kerguelensis, McIntosh.

McIntosh, 1885, p. 225, pl. xxxv, figs. 10-12; pl. xvIA, figs. 17-18.

Ehlers, 1897, p. 65, pl. iv, figs. 81-93.

Monro, 1930, p. 103.

OCCURRENCE. St. MS 68 (1 juv.); WS 25 (numerous); WS 27 (3); WS 83 (1).

SPECIFIC CHARACTERS. Up to about 40 mm. in length for 70 chaetigers. The tentacles are shorter than the head and the two pairs of eyes are widely separated. The jaws are brown and have five large teeth. The paragnaths are arranged as follows: (I) none or one; (II) a small triangular group; (III) a small, irregular, horizontal group; (IV) a triangular group; (V) none; (VI) one or two on each side; (VII) and (VIII) a single row of rather large paragnaths.

In the anterior region the feet have three stout triangular dorsal languets, the middle languet smaller than the others, and a dorsal cirrus slightly longer than the uppermost languet; in the ventral ramus the chaetal lobe has two dissimilar lips and there is a ventral languet about as long as the chaetal lobe. There is a tapering ventral cirrus shorter than the ventral languet. In the hinder region the intermediate dorsal languet disappears and the languets become narrower and more pointed. There is no increase of size in the dorsal languet. The ventral cirrus is very short.

The dorsal bristles consist of homogomph spinigers: the upper ventral bristles are homogomph spinigers and heterogomph falcigers; the lower ventral bristles are also homogomph spinigers and heterogomph falcigers. There are no heterogomph spinigers.

Genus *Platynereis*, Kinberg

Horny paragnaths arranged in pectinate rows of minute denticles. Groups I, II and V usually absent.

Platynereis magalhaensis, Kinberg (Fig. 24).

Fauvel, 1916, p. 434, pl. viii, figs. 21, 22, with synonymy.

Monro, 1930, p. 106, fig. 37.

OCCURRENCE. St. 53 (2 juv.); WS 762 (numerous); WS 852 (6).

SPECIFIC CHARACTERS. Up to about 80 mm. in length for 90 chaetigers. Just in front of the buccal segment in the median dorsal line there is a small nuchal cushion and on either side of this a small crescentic ridge behind the eyes (Fig. 24). The paragnaths are small: (I) none; (II) none; (III) a small transverse distichous group; (IV) several rows of pectinae; (V) none; (VI) one or two concentric arcs on each side; (VII) and (VIII) several small groups composed of one or two rows of small paragnaths.

The dorsal ramus of the anterior feet has a pair of triangular, subequal languets and a small conical chaetal lobe. There is a pair of dark glands in the dorsal languet, which is shorter than the dorsal cirrus. In the ventral ramus there is a blunt chaetal lobe and a ventral languet a little longer than the lobe. There is a small ventral cirrus. In the hinder region the pedal languets are narrower and more elongate. The dorsal bristles are homogomph spinigers: the upper ventral bristles are homogomph spinigers and heterogomph falcigers; the lower ventral bristles are heterogomph spinigers and heterogomph falcigers. In young specimens in the hinder region the dorsal ramus carries one or two special homogomph falcigers with curved tips attached to the blade.

REMARKS. I have already (1930, p. 106) discussed the relations of this species and I have nothing to add.

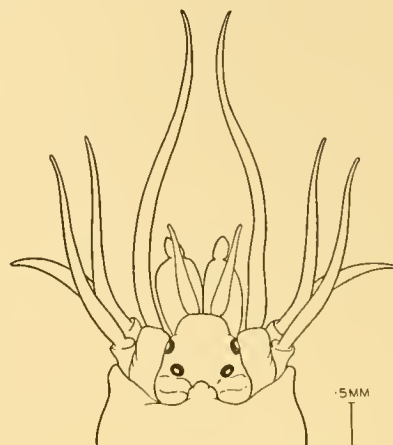


Fig. 24. *Platynereis magalhaensis*.
Head from above.

Genus *Leptonereis*, Kinberg

No paragnaths on the proboscis. Jaws are present and sometimes a number of soft papillae.

Leptonereis loxechini (Kinberg).

Nereis loxechini, Ehlers, 1908, p. 73, pl. vii, figs. 8-12; and 1913, p. 497.

Leptonereis loxechini, Monro, 1930, p. 107, fig. 38.

OCCURRENCE. St. 123 (3); 170 (2); 175 (2); WS 225 (1); WS 228 (8); WS 231 (1); WS 246 (20); WS 248 (8); WS 249 (1); WS 773 (1); WS 781 (1); WS 803 (1); WS 824 (28); WS 825 (numerous); WS 840 (numerous); WS 851 (1); WS 871 (10); WS 877 (2).

SPECIFIC CHARACTERS. Size up to about 175 mm. by 8 mm. including the feet. In spirit the body is without colour-markings. There are no paragnaths. The first two feet are uniramous. In the anterior region the notopod has two large languets, the lower rather shorter than the upper, and between them a third much smaller languet. The dorsal cirrus extends well beyond the end of the upper dorsal languet. The neuropodial lobe has two unequal lips, the anterior rounded and the posterior longer and conical. The ventral languet is broader and blunter than those of the notopod. The ventral cirrus reaches to the end of the ventral languet. The posterior feet differ from the anterior only in the more slender and pointed character of the languets.

The dorsal bristle-bundle contains homogomph spinigers; the upper ventral bundle homogomph spinigers and heterogomph falcigers; the lower ventral bundle heterogomph spinigers and heterogomph falcigers.

REMARKS. Below the 100-m. line this is by far the most abundant Nereid in the Falkland Island area.

Family NEPHTHYDIDAE

Genus *Nephtys*, Cuvier

Body elongate, more or less quadrangular in section. Prostomium polygonal and flattened. Four small tentacles. Proboscis with rows of soft papillae and a crown of terminal double papillae. A pair of jaws within the pharynx. Feet biramous provided with membranous, leaf-like lobes and simple bristles. There is a coiled, sickle-shaped branchia between the two rami.

1. With "lyre" bristles	...	...	...	...	...	...	...	...	<i>N. dibranchis</i>
Without "lyre" bristles	...	...	...	...	...	...	...	...	2
2. With posterior ventral lamella laciniated	...	...	...	...	...	...	...	...	<i>N. serratifolia</i>
With posterior ventral lamella smooth	...	...	...	...	...	...	...	...	3
3. With 22 rows of papillae on the proboscis	...	...	...	...	...	...	...	...	<i>N. squamosa</i>
With 14 rows of papillae on the proboscis	...	...	...	...	...	...	...	...	<i>N. macrura</i>

Nephtys dibranchis, Grube.

Monro, 1933, p. 56, text-fig. 24, with synonymy.

OCCURRENCE. St. 939, New Zealand (1).

SPECIFIC CHARACTERS. A slender, elongate species. There are usually 22 terminal, labial papillae and 22 rows of papillae. The dorsal ramus of the foot has a short, bluntly pointed, anterior lamella, a longer and also pointed chaetal lobe, and a rounded posterior lamella set very high and rather above the foot. In the ventral ramus the anterior lamella has a short pointed upper lobe lying just below the so-called ventral branchia and an inferior lobe that is scarcely indicated. Below, and extending beyond the upper lobe of the anterior ventral lamella, there is a prominent chaetal lobe, and behind this is the posterior ventral lamella, which is rounded and occupies the whole of the back of the ventral ramus. Lyre bristles are present.

Nephtys serratifolia, Ehlers.

Ehlers, 1897, p. 24, pl. i, fig. 13.

Monro, 1930, p. 114, fig. 41 *a, b*.

OCCURRENCE. St. WS 219 (2); WS 220 (1); WS 228 (2); WS 772 (3).

SPECIFIC CHARACTERS. Size up to about 60 mm. by 4 mm. for 100 chaetigers. The proboscis in all my specimens was withdrawn. Ehlers gives 20 terminal papillae and 15 rows with six or seven papillae in a row, the foremost being long and conical. In the feet there are a rounded upper posterior dorsal lamella, a slender lanceolate lower posterior dorsal lamella, a cirriform process at the base of the gill, a slender anterior

digitiform process, a lacinated posterior ventral lamella with the edge cut into about five processes and a small pointed anterior ventral lamella. There is also a scale-like process behind the ventral cirrus.

Nephthys macrura, Schmarda.

Fauvel, 1916, p. 436, pl. viii, figs. 1-3, with synonymy.

Monro, 1930, p. 111.

OCCURRENCE. St. 123 (4); 144 (4); 164 (6 juv.); 190 (1); 366 (12); 368 (1); 456 (10); 458 (numerous); 474 (3); 599 (1); WS 212 (5); WS 228 (1); WS 236 (1); WS 244 (1); WS 772 (1); WS 773 (5); WS 774 (1); WS 783 (2).

SPECIFIC CHARACTERS. Up to about 200 mm. in length. There are two groups of minute eye-spots at the base of the prostomium. The proboscis has 22 terminal papillae and 14 rows of papillae, each of which forks at the base into two or more divergent rows of minute papillae. The feet are very variable. There is always a rounded upper dorsal lamella, a lower dorsal lamella gathered to a point at its apex, and a lanceolate ventral lamella. There are no "lyre" bristles.

St. 458 yielded a superb specimen measuring 230 mm. in length from the tip of its extruded proboscis by 15 mm. in breadth without the feet, and with a thickness of 11 mm. The body-colour is a fine iridescent purple.

Nephthys squamosa, Ehlers?

Ehlers, 1887, p. 128, pl. xxxvii, figs. 7-10.

OCCURRENCE. St. WS 808 (12).

SPECIFIC CHARACTERS. About a dozen specimens, mostly small fragments. Among them are two or three fully grown examples, the largest of which measures 180 mm. by 7 mm. without the feet. None has the proboscis everted, and by dissection I can only discover that there are about 20 rows of papillae on the proboscis. Ehlers gives 22 rows of papillae and a single, large anterior papilla both dorsally and ventrally. The feet seem to correspond to Ehlers' account. There are in the dorsal ramus a rounded, scale-like, upper posterior lamella, a long, pointed, lanceolate, lower posterior lamella, and a small leaf-like branchial cirrus; the ventral ramus has a small tongue-shaped process lying above the bristles and a long, leaf-shaped, pointed, ventral posterior lamella.

REMARKS. This species is known from the tropical belt on both sides of the Atlantic, but I am somewhat sceptical of its occurrence as far south as the present locality. Unfortunately, I have no material other than two small anterior fragments from Gorgona Island in the Pacific, which I myself rather doubtfully assigned to *squamosa*, with which to compare the present specimens. Their feet agree well enough with Ehlers' account, but I have not been able to discover the exact arrangement of the papillae on the proboscis. Their precise attribution must for the present remain doubtful.

Family GLYCERIDAE

- | | | | |
|---|-----|-----|-----------------|
| 1. Body not divided into regions. Four jaws and no small paragnaths | ... | ... | <i>Glycera</i> |
| Body divided into two distinct regions. Two large jaws and numerous small paragnaths... | | | 2 |
| 2. Notopodial bristles capillary. Chevrons usually present on the proboscis | ... | ... | <i>Goniada</i> |
| Notopodial bristles acicular and plumed. No chevrons on the proboscis | ... | ... | <i>Glycinde</i> |

Genus *Glycera*, Savigny

Body rounded and tapered at both ends. The segments are bi- or triannulate. Head sharply conical, ringed, ending in four small tentacles. Proboscis clavate with four hooked jaw-plates. Feet biramous with minute dorsal cirri. The pedal lobes have two anterior and one or two posterior lips. There is a large ventral cirrus. Branchiae may be present or absent; they may be simple or branched, retractile or not retractile. Dorsal chaetae simple capillaries, ventral chaetae compound spinigers.

Glycera capitata, Oersted.

Fauvel, 1923, p. 385, fig. 151 *a-e*.

Monro, 1930, p. 115.

OCCURRENCE. St. 123 (1); 144 (3); 175 (1); WS 90 (1); WS 228 (3); WS 246 (1).

SPECIFIC CHARACTERS. A slender species up to about 60 mm. in length. The body-segments are three ringed. Head with about eight rings. Papillae of proboscis of two kinds, the more numerous long and cylindrical, the rest short and ovoid. The feet are short with two anterior lips and a single posterior. The anterior lips are conical and the upper is a little shorter than the lower. The posterior lip is short, broad and rounded. The dorsal cirrus is a small globular process set very high up above the foot. The ventral cirrus is broad and conical. There are no branchiae.

Genus *Goniada*, Audouin and Milne-Edwards

Body divided into two regions, an anterior region with uniramous feet and a posterior with biramous feet. The proboscis is papillated; and there is a pair of large toothed jaw-plates and a circlet of small paragnaths. In addition on each side of the base of the proboscis there is a longitudinal row of V-shaped paragnaths (chevrons). These are sometimes absent in adult specimens. There are no branchiae. The dorsal bristles are capillary and the ventral compound.

Goniada eximia, Ehlers (Fig. 25 *a-j*).

Ehlers, 1901, p. 157, pl. xx, figs. 7-17.

OCCURRENCE. Stanley Harbour, Falkland Islands between tide-marks (1).

SPECIFIC CHARACTERS. The single specimen is a gigantic glycerid measuring 76 cm. by 1.3 cm. without the feet at the widest part for 258 chaetigers. Some of the hindmost segments are missing. The colour in spirit is yellowish green. The body is somewhat flattened dorso-ventrally and tapered at each end, the tapering in front being much more pronounced than that of the hinder region. The head is extremely small for the size of the animal, measuring only 4 mm. in length. It is rather blunt, composed of about eight rings and ends in the usual four small tentacles. I see no eyes. The proboscis is partly extruded and is densely covered with small papillae, not arranged in

definite areas. These papillae (Fig. 25 *a*) are of a curious shape, as shown in the figure. There are no chevrons. There are a pair of large jaws, each with five teeth, and a circle of about 22 small X-shaped paragnaths (Fig. 25 *b*). In addition to this circle of small paragnaths, there are a few additional even smaller paragnaths forming an irregular second row behind the main circlet. These additional paragnaths are of the same form as the rest but smaller.

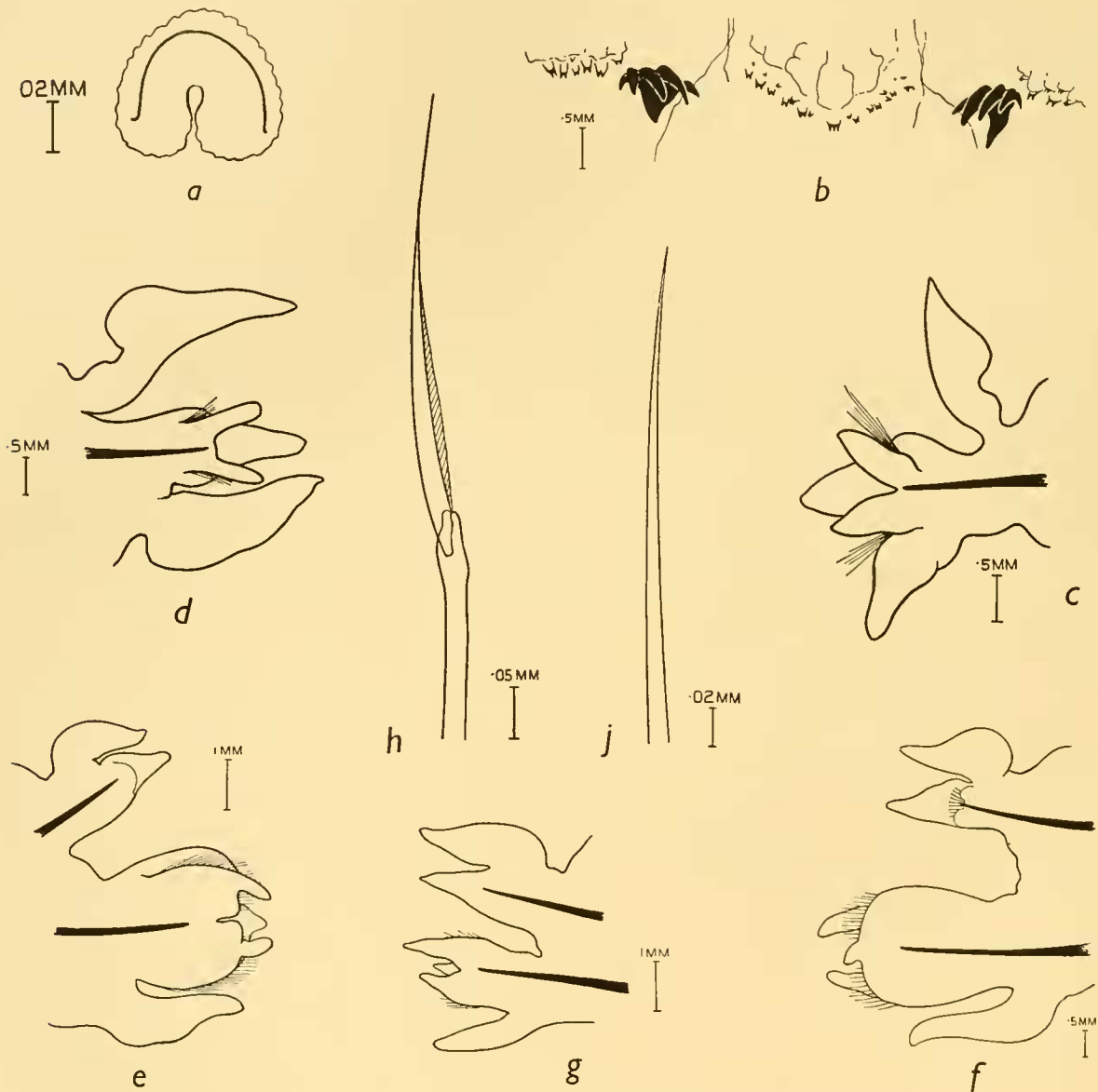


Fig. 25. *Goniada eximia*.

- | | |
|--|--|
| a. Papilla from proboscis. | f. Foot from middle region seen from behind. |
| b. Jaws. | g. Foot from hinder region seen from in front. |
| c. Tenth foot. | h. Ventral bristle. |
| d. Forty-fifth foot. | j. Dorsal bristle. |
| e. Foot from middle region seen from in front. | |

In the anterior region the feet are uniramous and the change over to the biramous condition takes place at the 59th chaetiger. In front the feet (Figs. 25 *c, d*) increase in size with the widening of the body from before backwards. They comprise a large, flattened somewhat curved dorsal cirrus with a distinct border on its upper surface, a pedal lobe with two digitiform lips in front and a single triangular lip behind, and a ventral cirrus rather like the dorsal except that it is inserted farther forward on the foot. In addition to an increase in size from before backwards in the anterior region there is a tendency for the two anterior lips of the chaetal lobe to fuse proximally. Behind the 59th chaetiger in the biramous region there is a broad, flattened, dorsal cirrus and a triangular dorsal ramus of about the same size: in the ventral ramus the two anterior lips are fused proximally, only their pointed ends remaining free, and the posterior lip is a broad flattened structure resembling a tennis-racquet in shape with a small triangular process at the apex: below the ventral ramus there is a broad, flattened ventral cirrus (Fig. 25 *e, f*).

There is very little change in the shape of the feet throughout the body behind the 59th chaetiger except in the hindmost region, where the body begins to narrow and the feet become smaller. Here the upper of the two anterior lips of the ventral ramus increases in size relatively to the lower (Fig. 25 *g*). Otherwise there is no change.

In regard to the bristles, those of the ventral ramus are long compound bristles with faintly denticulated end-pieces (Fig. 25 *h*). The dorsal ramus is supported by an aciculum and carries a bundle of *simple capillary bristles* (Fig. 25 *j*) almost entirely enclosed within the dorsal ramus. Only their ends are free of the chaeta-sac and they are almost wholly hidden by the triangular anterior lip of the dorsal lobe.

REMARKS. This species is a *Goniada* in everything except the possession of chevrons on the proboscis, and according to Ehlers chevrons are present in young specimens, but disappear in the adult. It is distinguished from other species by its size and by the great length of the anterior uniramous region. It seems to be more closely related to *G. longicirrata*, Arwidsson, than to any other species, but is distinguished by differences in the dorsal bristles and by the structure of the jaws.

Genus *Glycinde*, Müller

Body divided into two regions, an anterior region with uniramous feet and a hinder region with biramous feet. The proboscis is long and clavate, and covered with papillae. There is a pair of large, toothed jaw-plates and a circlet of small paragnaths. There are no V-shaped chevrons on the proboscis. The dorsal bristles are acicular and plumed and the ventral bristles are compound spinigers. There are no branchiae.

Glycinde armata (Kinberg) (Fig. 26).

Arwidsson, 1898, p. 54, pl. iii, figs. 50-51.

Fauvel, 1916, p. 438.

OCCURRENCE. St. WS 215 (2); WS 764 (1); WS 766 (2); WS 772 (1); WS 820 (1).

SPECIFIC CHARACTERS. A slender species strongly tapered anteriorly. The largest specimen is incomplete and measures 24 mm. by 2 mm. for 98 chaetigers. Fauvel gives

a measurement of 45–50 mm. in length. In spirit about the first 30 chaetigers are colourless, and behind this the back develops a greenish colour which increases in intensity from before backwards. In some of the specimens the dorsal surface of the hindmost region is a greenish black interrupted by narrow light green intersegmental bands. The head has about nine rings and ends in four small tentacles. None of the specimens has the proboscis everted. I see between 15 and 20 X-shaped paragnaths and according to Arwidsson the paired jaw plates each have five teeth. I figure some papillae from the proboscis (Fig. 26).

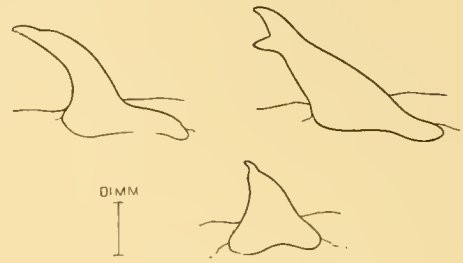


Fig. 26. *Glycinde armata*.
Papillae from proboscis.

The change over from the uniramous to the biramous condition of the feet takes place between the 30th and 35th chaetigers.

In the uniramous region there is a large dorsal cirrus, a chaetal lobe with a pair of conical lips of which the hinder is longer than the anterior, and a ventral cirrus a little longer than the foot. In the biramous region there is a triangular dorsal cirrus, a small rounded dorsal lobe, a large ventral lobe with two digitiform anterior lips, and a single conical posterior lip and a triangular ventral cirrus.

The ventral bristles are all compound with lightly denticulated end-pieces; the dorsal bristles are stout acicular bristles surmounted by a kind of plume.

In regard to the eyes in this species, Arwidsson gives two pairs, but I can see only one pair in the present specimens.

REMARKS. This species is akin to the northern *G. nordmanni*, but is easily distinguished by the division into two lobes of the anterior lip of the ventral ramus in the hinder region. This also distinguishes it from the Brazilian *G. multidentis*, F. Müller.

In the original description of *G. pacifica*, mihi, from the Panama region I gave no account of the paragnaths. I have now re-examined the type and I find the usual pair of large jaws, each with five teeth, and 22 X-shaped micrognaths. The dorsal bristles are of the plumed acicular kind and show nothing distinctive. I suspect that further material will reveal that my species is a synonym of *G. multidentis*.

Family SPHAERODORIDAE

Genus Ephesia, Rathke

Body elongate, subcylindrical. Prostomium with four papilliform antennae. The dorsal cirri consist of spherical capsules surmounted each by a small papilla. The buccal segment has dorsal cirri, but is achaetous. The feet are uniramous with either simple or compound bristles. A large ventral papilla takes the place of the ventral cirrus. The proboscis is cylindrical and unarmed. The pygidium has two spherical capsules. There is no striated gizzard.

Ephesia antarctica, McIntosh.

McIntosh, 1885, p. 361, pl. xlix, fig. 5; pl. xxiiA, figs. 22-23.

Ehlers, 1908, p. 107, pl. xlv, figs. 7-13.

OCCURRENCE. St. WS 212 (1).

SPECIFIC CHARACTERS. Up to about 50 mm. in length. The body is papillated. I can see only one pair of reniform eyes. Bristles compound with rather short pointed blades.

REMARKS. Except that I can see only one pair of eyes I cannot separate this species from *E. peripatus* (Claparède). Unfortunately the only specimen of Claparède's species in the museum is of little use for purposes of comparison, but the descriptions of the northern species seem to be equally applicable to the southern.

Family EUNICIDAE

Subfamily EUNICINAE

Ovate frontal tentacles absent. From one to five occipital tentacles.

Genus *Eunice*, Cuvier

Body elongate. A pair of bulbous palps. Five tentacles with smooth tentaculophores. A pair of tentacular cirri on the second segment. First and second segments apodous. Dorsal cirri elongate, ventral cirri short or cushion-like. Branchiae simple or pectinate. Feet sesquiramous, with acicular chaetae, simple, compound, and comb-bristles. Upper jaw with a pair of mandibles, two or three toothed plates and an unpaired plate on the left side. Lower jaw of two pieces.

1. Branchiae continued to the end of the body	...	...	...	...	...	...	...	...	<i>E. frauenfeldi</i>
Branchiae confined to the anterior region	...	...	...	...	...	...	...	...	2
2. Subacicular hooks bidentate	...	...	...	...	...	...	...	...	<i>E. pennata</i>
Subacicular hooks tridentate	...	...	...	...	...	...	...	...	<i>E. australis</i>

Eunice frauenfeldi, Grube.

Ehlers, 1901, p. 127.

Augener, 1931, p. 286.

Eunice magellanica, McIntosh, 1885, p. 265, pl. xxxvii, figs. 12-15; pl. xixA, figs. 6-9.

OCCURRENCE. St. WS 763 (3); WS 764 (1); WS 776 (numerous); WS 788 (1); WS 852 (3).

SPECIFIC CHARACTERS. A full-grown example of this species measures about 300 mm. by 6 mm. at the widest part for about 200 chaetigers. The prostomium is bilobed and the tentacles are indistinctly annulated. The gills usually begin at the 6th chaetiger and are continued to within three or four segments from the end of the body. In the anterior third of the body the maximum number of filaments is usually eight or nine, but there may be as many as 14: in the middle region the number drops to four or five, and in the hinder region it increases again to seven or eight. In the latter region the filaments are set very close together and the gills often have a bushy appearance, as McIntosh indicates. The feet are supported by two large acicula which are black except towards

their tips which are pale yellow. The hooded bidentate subacicular bristle which begins about the 30th chaetiger is similarly coloured. From about the 7th to the 60th chaetigers the ventral cirri are transformed into large ovate glandular organs.

The dental formula is approximately: 6-6 : 10 + 5 - 12.

Eunice pennata (O. F. Müller).

Fauvel, 1923, p. 400, fig. 156 *h-o*.

Monro, 1930, p. 118, fig. 42 *a, b*.

Eunice antarctica, Baird, 1869, p. 348.

Eunice narconi, Baird, 1869, p. 350.

OCCURRENCE. St. 160 (1); 474 (1); WS 177 (1); WS 804 (1); WS 871 (8).

SPECIFIC CHARACTERS. Head very slightly indented in front. Tentacles irregularly annulated. Gills beginning on the third to fifth feet and confined for about the first 50 chaetigers. Maximum number of filaments about 15. The acicula are yellow and the hooded, bidentate, subacicular chaeta begins between the 30th and 35th chaetigers. The dental formula is 8 or 9-9 : 9 or 10 + 7 or 8 - 12.

Eunice australis, Quatrefages.

Fauvel, 1917, p. 228, fig. xxi *a-d*, with synonymy.

OCCURRENCE. St. 929, New Zealand (2); 935, New Zealand (5).

SPECIFIC CHARACTERS. Tentacles annulated. Gills beginning at the third to seventh feet and confined to the anterior third of the body. Subacicular bristles tridentate. Dental formula approximately 6-7 : 6 + 8 - 12.

Subfamily ONUPHIDINAE

A pair of ovate frontal tentacles. Five occipital tentacles all with ringed tentaculophores.

- | | | | | | | | | | |
|---|-----|-----|-----|-----|-----|-----|-----|-----|------------------------|
| 1. Gills with filaments arranged in a spiral | ... | ... | ... | ... | ... | ... | ... | ... | <i>Diopatra</i> |
| Gills simple or pectinate... | ... | ... | ... | ... | ... | ... | ... | ... | 2 |
| 2. With no tentacular cirri | ... | ... | ... | ... | ... | ... | ... | ... | <i>Hyalinoecia</i> |
| Tentacular cirri present | ... | ... | ... | ... | ... | ... | ... | ... | 3 |
| 3. First three feet greatly enlarged and carrying long bristles with hooked ends | ... | ... | ... | ... | ... | ... | ... | ... | <i>Rhamphobrachium</i> |
| First three feet only slightly enlarged and carrying small simple or pseudo-compound crochets | ... | ... | ... | ... | ... | ... | ... | ... | <i>Onuphis</i> |

Genus *Diopatra*, Audouin and Milne-Edwards

A pair of cushion-like palps. In addition to the paired frontal tentacles and the five occipital tentacles there is a pair of small tentacular cirri borne on the first (apodous) segment. The gills have the filaments arranged spirally around a main axis. Pseudo-compound bristles in the first few feet, followed by capillary, acicular and comb-bristles. Upper jaw with mandibles, three pairs of toothed plates and an unpaired plate.

- | | | | | |
|---|-----|-----|-----|-----------------------|
| Occipital tentacles short. Lower jaw plates heavy and large | ... | ... | ... | <i>D. punctifera</i> |
| Occipital tentacles long. Lower jaw-plates thin, delicate | ... | ... | ... | <i>D. neapolitana</i> |

Diopatra punctifera, Ehlers.

Ehlers, 1908, p. 79, pl. x, figs. 1-11.

Monro, 1930, p. 124, fig. 44 a, b.

OCCURRENCE. St. WS 4 (numerous).

SPECIFIC CHARACTERS. These specimens are merely additional to those discussed by me under this heading in 1930. The occipital tentacles reach back to the 4th or 5th chaetiger. The gills begin at the 5th chaetiger, reach their maximum size at the 6th or 7th, maintain this maximum for about the following four or five chaetigers and then rapidly diminish in size. They disappear between the 40th and 50th chaetigers. The ventral cirrus ceases at the 5th or 6th chaetiger. The anterior pseudo-compound bristles are bidentate. The comb-chaetae are very delicate and have their sides curved inwards. There are between 15 and 20 short teeth. The subacicular bristles appear between the 10th and 15th chaetigers.

The dental formula is 7-8:7+6-9. The heavy black lower jaw-plates are as figured by me (*loc. cit.* fig. 44 b).

REMARKS. The question arises whether this species is identifiable with *D. neapolitana*, Delle Chiaje. I am inclined to keep it apart on the ground of the relative shortness of the tentacles, which in these numerous specimens at least appear to be consistently shorter than those in *neapolitana*, and on the ground of the heavy, black lower jaw-plates, which are very different from those of *neapolitana*. On the other hand, it should be added that they also differ from those originally described by Ehlers for *D. punctifera*.

Diopatra sp.

OCCURRENCE. St. 149 (2).

SPECIFIC CHARACTERS. Two young and rather ill-preserved specimens, the larger of which measures 20 mm. by 2 mm. for about 50 chaetigers. As far as can be seen from the rather poor material, they differ from the specimens of *punctifera* only in the following particulars. The occipital tentacles are relatively much longer and reach back to about the 10th chaetiger, the gills do not maintain their maximum size so far back on the body, diminishing more rapidly and ceasing about the 30th chaetiger, and the lower jaw-plates are slender and lightly chitinized. In fact I can find nothing to separate these specimens from *D. neapolitana*, but as I believe this to be the first record of a *Diopatra* from Antarctic waters and as the material is very scanty I am unwilling so far to extend the range of *neapolitana*.

REMARKS. Fauvel (1933, p. 28) has contributed a valuable article on *Diopatra* in which he shows that the number of teeth on the comb-chaetae is of little, if any, value as a specific differential. We must, however, remain in the dark in regard to *Diopatra* until a revision has been made of the seven species described by Kinberg (1857, pp. 38-9). Of these, as far as my knowledge goes, the Australian *D. dentata* is the only one that has been redescribed with reference to the type (Augener, 1922, p. 37). I have recently (1933 and 1934) attributed specimens from the Panama Region and from China to *D. dentata*, basing my distinction from *neapolitana* on the fact that the branchiae

reach their maximum size by the second branchiferous segment, maintain this maximum for two or three segments only and then rapidly diminish in size, whereas in *neapolitana* the maximum gill development is often not attained for about the first 10 branchiferous segments (Fauvel in his *Faune de France* volume gives the 25th chaetiger) and is maintained farther back along the body. Also the comb-chaetae in these specimens had numerous very small teeth. The examination of several Mediterranean specimens of *Diopatra neapolitana* has, however, shaken my confidence in the value of this distinction based on the gills, and I remark that Fauvel states that in his Chinese specimens the gills reached their maximum development by the 8th chaetiger.

Moreover, even if *dentata*, as I understand it, be distinct from *neapolitana*, it is quite probable that *dentata* will prove to be identical with one or more of Kinberg's species, *D. leuckarti*, *viridis*, *amaena* and *brasiliensis* that have precedence by page.

Diopatra neapolitana, Delle Chiaje.

Fauvel, 1933, p. 28, figs. 3 *a-h*, 4 *a-l*.

OCCURRENCE. St. 274. Off St Paul de Loanda, Angola (6).

SPECIFIC CHARACTERS. These examples are supplementary to those from this station attributed by me (1930, p. 124) to *D. cuprea* (Bosc). The tentacles are very long, the occipitals reaching back to the 17th chaetiger. The gills begin at the 5th chaetiger, reach their maximum a few chaetigers farther back, and although they show a certain decrease in size after a few chaetigers, they remain sufficiently large to meet across the back up to about the 50th chaetiger. The comb-chaetae have about 20 teeth. The lower jaw-plates are rather delicate and lightly chitinized.

REMARKS. The differences between this species and *D. punctifera* have already been discussed under the heading of that species. I can see nothing but the greater development of the gills to distinguish this specimen from the Antarctic examples from St. 149.

Genus *Rhamphobrachium*, Ehlers

Two cushion-like palps, two short frontal tentacles, and five occipital tentacles borne on ringed tentaculophores. A pair of tentacular cirri. Gills pectinate. Three anterior feet very large and pointing forwards. They carry very long bristles with hooked ends. Upper jaw with mandibles and toothed plates of which one is unpaired.

Rhamphobrachium ehlersi, Monro (Fig. 27 *a-c*).

Monro, 1930, p. 126, fig. 46 *a-i*.

OCCURRENCE. St. 474 (1)

SPECIFIC CHARACTERS. An anterior fragment measuring 27 mm. by 5 mm. across the body for 40 chaetigers. Anterior tentacles globular. Outer laterals spindle-shaped with massive tentaculophores. Inner laterals more slender reaching to the anterior border of the 2nd chaetiger. Median tentacle slightly shorter. Stout tentacular cirri inserted on anterior border of first segment. The first three pairs of feet are much enlarged and carried forward beneath the body. These have a stout dorsal cirrus, a conical ventral

cirrus, and at the apex of the foot three small, retractile, papilliform lobes. Behind the first three chaetigers the feet are of the normal onuphid form. The ventral cirrus is transformed into a pad by the 6th chaetiger, and the prolongation of the hinder lip of the chaeta-sac disappears by the 10th chaetiger. The gills begin at the 10th-11th chaetiger and at the 20th are bifilamentous. None of my material shows more than two filaments. The fully developed gill is two or three times as long as the dorsal cirrus.

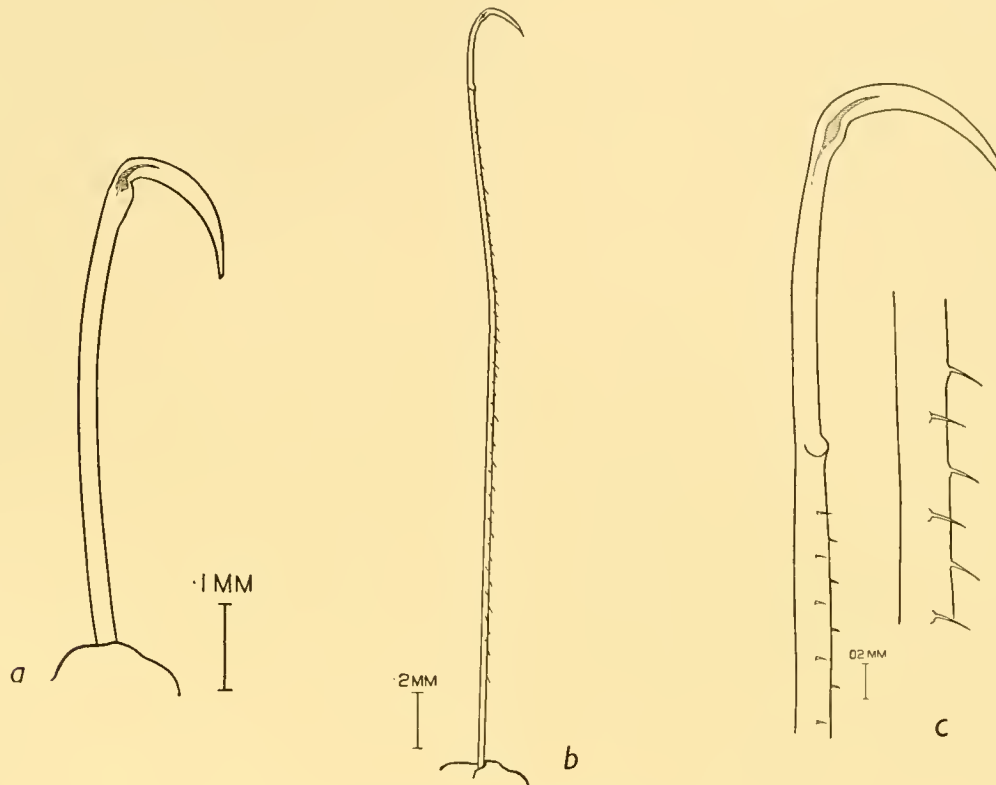


Fig. 27. *Rhamphobrachium ehlersi*.

a. Bristle from first foot. b. Bristle from third foot.
c. Bristle from third foot, highly magnified.

The bristles of the first three modified chaetigers are extremely long. Those of the first chaetiger are capillary with hooked tips, there being a suggestion of a false joint just below the hook (Fig. 27 a). Those of the 3rd chaetiger are of similar general structure, but the shaft carries two alternating rows of long spines which cease at a kind of notch which is situated a short distance below the hook (Fig. 27 b, c). The 4th and succeeding feet are supported by three long pointed yellow acicula. The 4th foot has dorsally capillary bristles and ventrally compound bristles with knife-like blades. At the 10th foot there are in addition several comb-chaetae. At about the 20th foot a pair of yellow hooded bidentate subacicular hooks appear and take the place of the compound bristles.

The dental formula is 7-9: 9+6-6.

Genus *Onuphis*, Audouin and Milne-Edwards

Two cushion-like palps, two short frontal tentacles, and five occipital tentacles borne on ringed tentaculophores. A pair of tentacular cirri is present. Gills simple or pectinate, sometimes absent. Pseudo-compound bristles in a few anterior feet, followed by capillary, acicular and comb-chaetae. Upper jaw with mandibles and toothed plates of which one is unpaired.

1. Branchiae simple, cirriform	...	...	...	...	...	...	...	...	...	2
Branchiae pectinate	...	...	...	...	...	...	...	...	...	3
2. Branchiae beginning on 1st foot	...	...	...	...	...	...	...	...	...	<i>O. iridescens</i>
Branchiae beginning about the 10th foot	...	...	...	...	...	...	...	...	...	<i>O. conchylega</i>
3. Branchiae beginning about the 2nd foot	...	...	...	...	...	...	...	...	...	<i>O. aucklandensis</i>
Branchiae beginning about the 6th foot	...	...	...	...	...	...	...	...	...	<i>O. dorsalis</i>

Onuphis conchylega, Sars.

Fauvel, 1923, p. 415, fig. 164 *a-m*.

OCCURRENCE. St. 159 (1); WS 237 (2).

SPECIFIC CHARACTERS. Branchiae simple, cirriform, beginning about the 10th foot. First two feet enlarged and directed forwards. They are provided with large simple hooks, and the 3rd foot has pseudo-compound unidentate or bidentate crochets. Comb-chaetae are present from the 2nd foot. Ventral cirrus absorbed at the 3rd foot. Cirriform postchaetal lip disappearing at about the 14th chaetiger.

REMARKS. I have compared these examples with some specimens of this species from off the north of Scotland and they are undoubtedly conspecific. Augener (1931, pp. 295-8) has reviewed the types of the species of *Onuphis* described by Kinberg from the South Atlantic. *O. verngreni* is a *Rhamphobranchium*; the type of *O. setosa* has disappeared and that of *O. fragilis* is not well enough preserved to be determinable. Both *O. setosa* and *O. fragilis* are described as having "branchiae cirrosae" and I strongly suspect them both of being the same as *O. conchylega*, but under the circumstances Kinberg's names had better be dropped.

Onuphis iridescens (Johnson).

Northia iridescens, Johnson, 1901, p. 408, pl. viii, figs. 86-87; pl. ix, figs. 88-92.

Monro, 1930, p. 132.

OCCURRENCE. St. WS 212 (5).

SPECIFIC CHARACTERS. A slender, elongate, pearly white species. The single complete specimen measures 114 mm. by 2 mm. for 190 chaetigers. The tentacles are long and the inner pair of occipitals reaches back to the 8th or 9th chaetiger. The gills begin on the first foot and are continued to between the 20th and 40th chaetiger from the end of the body. They are single and cirriform throughout. The gills attain the same size as the dorsal cirrus at about the 5th foot and after that gradually increase in length relatively to the dorsal cirrus. The post-chaetal lip of the foot disappears at the 12th chaetiger and the ventral cirrus is absorbed at the 6th.

The pseudo-compound crochets of the first four chaetigers are tridentate. A pair of hooded bidentate subchaetal spines appear at about the 15th foot.

The dental formula is approximately $8-8:9+5-7$. The carriers taper down to fine points.

REMARKS. Without seeing Johnson's type I cannot be certain that these specimens belong to his species, but as far as his description goes I can find nothing to keep them apart.

Onuphis dorsalis (Ehlers).

Diopatra dorsalis, Ehlers, 1897, p. 71, pl. v, figs. 108-118.

Onuphis quadricuspis, Monro, 1930, p. 131, fig. 49 a-c.

Onuphis dorsalis, Augener, 1931, p. 294.

OCCURRENCE. St. WS 212 (2); WS 764 (2); WS 771 (3); WS 772 (12); WS 774 (5); WS 783 (2); WS 786 (4); WS 808 (7); WS 863 (1).

SPECIFIC CHARACTERS. Almost the only complete specimen measures 48 mm. by 2 mm. at the widest part for 110 chaetigers. The first five chaetigers are usually only slightly pigmented on the dorsum, the intensity of the pigment increasing from before backwards, but from about the 6th to the 25th chaetiger there are deep reddish brown transverse bands across the back. Behind this the pigment fades out rather rapidly. The first four or five chaetigers form a kind of neck, the segments being narrow and cylindrical and $1\frac{1}{2}$ times as long as a segment from the middle of the body. The ventral cirrus is converted into a pad by the 6th-7th chaetiger. The cirriform posterior lip of the chaeta-sac disappears about the 17th foot. The branchiae begin at the 6th chaetiger and about the last 45 chaetigers of the body are abranchiate. The number of filaments is variable. Usually there are only two filaments, the second filament appearing early in the branchiate region and disappearing at about the 40th chaetiger, but in a few specimens a third filament is developed at about the 30th chaetiger. And again in some of the smaller examples a second filament is not developed and the gills remain single throughout. The fully developed gill is longer than the dorsal cirrus.

The first five chaetigers have capillary bristles and pseudo-compound bristles; the arrangement of the latter is somewhat variable, but the most usual condition is for the first three chaetigers to carry perfectly smooth pseudo-compound bristles without teeth and apparently without hoods, as figured by me (*loc. cit.*, fig. 49 b). The 4th and 5th chaetigers carry in addition bidentate and tridentate pseudo-compound bristles. The comb-chaetae have about 12 rather long narrow teeth. At about the 15th chaetiger a pair of bidentate hooded subacicular hooks appear. The feet are supported by three rather slender yellow pointed acicula.

Ehlers figures the jaws. The dental formula is approximately $8-8:7+9-12$. M. V is represented by two small chitinous plates.

REMARKS. In 1930 I attributed several specimens of this species to *O. quadricuspis*, Sars, and I still think it very doubtful that *O. dorsalis* is more than a coloured form of Sars' species. Unfortunately the material of *O. quadricuspis* in the Museum collection

is very poor and of little use for purposes of comparison. The unidentate pseudo-compound bristles are puzzling because of the apparent absence of any hood. It may, of course, have been worn away.

Onuphis aucklandensis, Augener.

Augener, 1924, p. 418, fig. 11 *a-c*; and 1927, p. 172, fig. 7.

Fauvel, 1932, p. 146.

OCCURRENCE. St. 938, New Zealand (1); 939, New Zealand (2).

SPECIFIC CHARACTERS. I believe these to be young examples of Augener's species. None is complete. The largest measures 21 mm. by 2 mm. at the widest part for 86 chaetigers. In the anterior region the dorsum is banded with brown. The lateral occipital tentacles reach back to the 15th chaetiger (according to Fauvel to the 24th–27th). Apparently the normal condition is for the gills to begin on the 2nd chaetiger and to reach a maximum of about five filaments by the 7th chaetiger, but in two out of three of the present specimens the gills begin on the first chaetiger. The gills are bifid by the 4th–6th foot: in one specimen they are trifold at the 6th foot and in the other two trifold at about the 20th chaetiger. The maximum number of filaments is four, and this is reached by about the 25th chaetiger. The largest fragment still has bifid gills on the 86th chaetiger.

There are tridentate and bidentate pseudo-compound bristles in the first five chaetigers (Fauvel gives the first three). The ventral cirrus disappears at the 7th foot and the post-chaetal lip of the foot at about the 20th chaetiger. The bidentate hooks appear at the 15th chaetiger.

REMARKS. Fauvel (1932, p. 146) records specimens of *O. eremita* with bifid gills behind the 10th–13th feet, and my specimens with the gill beginning on the 1st foot and branching on the 5th–6th are near to these, but on the whole they appear to be closer to Augener's species, especially as they are clearly the same as the specimen with the gill beginning on the 2nd foot.

Genus *Hyalinoecia*, Malmgren

Two cushion-like palps, two short frontal tentacles, and five occipital tentacles borne on ringed tentaculophores. The first achaetous segment is devoid of tentacular cirri. Pseudo-compound bristles are present in the first few chaetigers, followed by capillary, acicular and comb-chaetae. Upper jaw with mandibles and toothed plates of which one is unpaired.

Hyalinoecia tubicola (O. F. Müller).

Fauvel, 1923, p. 421, fig. 166 *i-q*.

Augener, 1924, p. 422.

OCCURRENCE. St. 935, New Zealand (1); St. 936, New Zealand (6).

SPECIFIC CHARACTERS. Gills simple cirriform, beginning at the 20th–25th chaetiger. First two chaetigers with simple bidentate hooded crochets (pseudo-compound in young specimens). Tube free, transparent, horny, not covered with sand-grains.

Subfamily *LUMBRINEREINAE*

No external tentacles (except in *Augeneria*), and no ventral cirri. Dorsal cirri rudimentary or absent.

- | | | | | | | | | | | |
|----|----------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|---------------------|
| 1. | With nuchal tentacles | ... | ... | ... | ... | ... | ... | ... | ... | <i>Augeneria</i> |
| | Tentacles absent | ... | ... | ... | ... | ... | ... | ... | ... | 2 |
| 2. | Gills present in anterior region | ... | ... | ... | ... | ... | ... | ... | ... | <i>Ninoë</i> |
| | No gills | ... | ... | ... | ... | ... | ... | ... | ... | 3 |
| 3. | Crochets present in the feet | ... | ... | ... | ... | ... | ... | ... | ... | <i>Lumbrinereis</i> |
| | No crochets | ... | ... | ... | ... | ... | ... | ... | ... | <i>Drilonereis</i> |

Genus *Lumbrinereis*, Blainville

Head conical or globular, devoid of all appendages. Dorsal cirri absent or rudimentary, ventral cirri and gills absent.

Bristles, winged capillaries and simple or compound hooks. Labrum composed of two pieces. Upper jaws with a pair of mandibles and three pairs of jaw-plates.

- | | | | | | | | | | | |
|----|----------------------------|-----|-----|-----|-----|-----|-----|-----|-----|------------------------|
| 1. | Head more or less globular | ... | ... | ... | ... | ... | ... | ... | ... | <i>L. cingulata</i> |
| | Head conical | ... | ... | ... | ... | ... | ... | ... | ... | 2 |
| 2. | No compound crochets | ... | ... | ... | ... | ... | ... | ... | ... | <i>L. heteropoda</i> |
| | Compound crochets present | ... | ... | ... | ... | ... | ... | ... | ... | <i>L. magalhaensis</i> |

Lumbrinereis magalhaensis, Kinberg.

Ehlers, 1897, p. 74.

Gravier, 1911, p. 78, pl. iii, figs. 35-36.

Lumbrinereis kerguelensis, Grube, McIntosh, 1885, p. 246, pl. xxxvi, figs. 16-17; pl. xvii A, fig. 18; pl. xviii A, figs. 2-4.

OCCURRENCE. St. 27 (12 juv.); 30 (7); 144 (numerous juv.); 366 (2); 456 (2); 474 (1); WS 33 (4 juv.); WS 215 (1); WS 856 (1).

SPECIFIC CHARACTERS. The largest specimen is incomplete and measures 127 mm. by 4 mm. for 130 chaetigers. The prostomium is pointed, conical. Ventrally the second buccal segment is involved with the mouth. The pedal lips are short and rounded and there is no increase in size of the hinder lip in the posterior region. In the front region the bristles consist of slender bordered capillaries and compound crochets. The latter have a wide independent flange below the pseudo-articulation. Farther back, usually between the 20th and 30th chaetigers, the compound crochets are replaced by simple crochets, and the bordered capillaries disappear. Their place of disappearance is variable, but in adult specimens it appears to be in the neighbourhood of the 70th chaetiger.

As regards the upper jaws, M. II have four teeth, M. III and M. IV are unidentate and there is often an accessory M. V.

REMARKS. I have examined the original specimens of McIntosh's *kerguelensis*, Grube, and in my opinion they belong to this species. Benham remarks that the simple crochets of his specimens more closely resembled McIntosh's figure (pl. xviii A, fig. 1) of those of *L. japonica* than his figure (pl. xvii A, fig. 18) of the crochets of *L. kerguelensis*. I have examined the toothed heads of a series of simple crochets and I find them very variable in appearance, partly, I believe, as the result of wear. McIntosh's figure

showing a rather large main tooth is correct, but often the teeth are worn down or broken away, when the heads of the crochets are like those figured by McIntosh for *L. japonica*.

Lumbrinereis heteropoda, Marenzeller.

Crossland, 1924, p. 4, text-figs. 1-7, with synonymy.

OCCURRENCE. St. WS 4 (7).

SPECIFIC CHARACTERS. The head is conical. The feet increase in length from before backwards, and in the hinder region the posterior lip of the foot is produced into a long and often erect cirriform process. In the front region there are capillary bristles only, and farther back there are both capillary bristles and simple crochets. The latter first appear between the 10th and 40th feet. This is a large species measuring as much as 7 mm. in breadth.

Lumbrinereis cingulata, Ehlers.

Ehlers, 1897, p. 76, pl. v, figs. 119-124.

OCCURRENCE. St. WS 755 (2); WS 762 (2); WS 834 (2).

SPECIFIC CHARACTERS. I have with some hesitation attributed these specimens to Ehlers' species. One complete example measures 59 mm. by 2 mm. for 82 chaetigers and there are several much larger fragments measuring 3-4 mm. in breadth. Only the specimens from St. WS 762 show traces of the speckling regarded by Ehlers as characteristic of this species. Ehlers describes this species as speckled on both surfaces with small dark spots, except intersegmentally and except for a narrow dorsal transverse band in the middle of the segments. In several of these specimens, but not in all, a transverse ridge or thickening of the cuticle can be seen in the middle region of the body connecting the feet across the back, in exactly the position of the mid-segmental unpigmented band in the speckled specimens. Moreover, there is a marked tendency in the middle region for the front border of the segments dorsally to overlap and to be folded over the hinder border of the segment in front.

The head is bluntly ovate or more or less globular. The first buccal segment is apparently incomplete ventrally, where it is replaced by a prolongation of the second buccal segment.

The anterior lip of the foot is low and rounded and the posterior shows a short, blunt prolongation which has no relative increase in the hinder region. In the front region the bristles consist of winged capillaries and compound crochets with narrow flanges. Between the 10th and 20th chaetigers the compound crochets are replaced by simple crochets, and in the middle and hinder regions a different type of capillary bristle takes the place of the ordinary winged capillaries. In the middle and in the hinder region except for a few terminal segments there are one or two bristles about equal in length to the crochets and having very wide wings confined to a short area not far below the fine hair-like tip. These wings are curved backwards in a characteristic manner. The feet are supported by two brown acicula.

In regard to the jaws M. II have four to five teeth, M. III are bidentate, and not unidentate as Ehlers records: the second tooth is small and easy to overlook. M. IV are unidentate. The lower jaws are striated in front.

REMARKS. Apart from the speckling which cannot always be seen in preserved specimens, the outstanding features of this species are the more or less globular prostomium, the characteristic capillary bristles of the middle and hinder regions, and the presence of two teeth in M. III.

Lumbrinereis sp., near *impatiens*, Claparède.

OCCURRENCE. WS 756 (1).

SPECIFIC CHARACTERS. A large incomplete specimen measuring 110 mm. by 3 mm. The head is conical, and several grooves run up from the second buccal segment to the mouth. In the front region the feet are fairly well preserved and the hinder lip is conical and longer than the front lip. The acicula are yellow. In the front region the chaetae consist of winged bristles and simple crochets with long guards. In the middle and hinder regions the guard of the simple crochets is much shorter, and the capillary bristles disappear. In the present specimen they persist at any rate as far as about the 80th chaetiger. In the middle and hinder regions the feet are macerated and collapsed, and it is impossible to see whether there is an increase in size of the hinder lip of the foot in the posterior region. The jaws differ from those of a typical *impatiens*: M. II have five teeth; and M. III are unidentate, and not bidentate.

REMARKS. In the form of the head and of the bristles this specimen agrees with *impatiens*. It differs to some extent in the structure of the jaws, and unfortunately the shape of the hinder feet cannot be ascertained. It may represent a new species.

The Chilean *L. bifilaris*, Ehlers, has a similar arrangement of bristles, but the pedal lips in the hinder region become greatly elongated.

L. antarctica, mihi, is similarly devoid of compound crochets, but it has black acicula, capillary bristles only in the first 10 chaetigers, and jaws with three teeth in M. II.

Genus *Augeneria*, Monro

Head conical and with three small tentacles at its hinder edge partly hidden in a crescentic groove between the prostomium and buccal segment, as in *Aglaurides*. Dorsal and ventral cirri and gills absent. Bristles winged capillaries and simple and compound crochets. Jaws as in *Lumbrinereis* with a pair of mandibles and three pairs of plates.

Augeneria tentaculata, Monro.

Monro, 1930, p. 140, fig. 52 a-k.

OCCURRENCE. St. 599 (1); WS 212 (1); WS 236 (1); WS 773 (1).

SPECIFIC CHARACTERS. One specimen is complete and measures 170 mm. by 4 mm. at the widest part for 159 chaetigers. The head is of a rounded oval shape and there are no eyes. Of the three tentacles lying in the nuchal groove at the back of the head the median is a little larger and stouter than the rest. The second segment forms the lower border of the mouth.

The lobes of the feet are short, and in the anterior region the posterior lobe projects well beyond the anterior: it is more or less triangular in shape. In the hinder region the lobes are subequal, the posterior being more pointed than the anterior. In the front region the bristles consist of bordered capillaries and compound crochets. Farther back the compound crochets are replaced by simple crochets, and the dorsalmost bristle in each foot is a giant simple crochet. In the hinder region the capillary bristles lose their borders and disappear a short distance from the end of the body.

The lower jaw is short and rather stout. In the upper jaw M. I is a pair of pincers; M. II is a pair of heavy plates with three teeth; M. III has two teeth; M. IV is a pair of large plates without clearly defined teeth.

Genus *Ninoë*, Kinberg

Prostomium conical and devoid of appendages. In the front region the hinder lip of the foot breaks up into a number of cirriform branchial processes. Bristles winged capillaries and simple crochets. Upper jaws with a pair of mandibles and three pairs of plates.

Ninoë falklandica, n.sp. (Fig. 28 *a-l*).

OCCURRENCE. St. WS 212 (1).

SPECIFIC CHARACTERS. The single specimen measures 59 mm. by 2 mm. for 110 chaetigers. The body is scarcely at all tapered in front. The marked shortness and crowding of the segments in the anterior region observed by me (Monro, 1933, p. 89) in *Ninoë chilensis* is absent in this specimen, where the anterior segments are only three times as broad as long. The head is a pointed cone and lateral grooves are not evident. Ventrally the second apodous segment is continued forward in the median line to form the lower edge of the mouth (Fig. 28 *a*), exactly as described by Gravier (1911, p. 79) for *Lumbrinereis magalhaensis*. For about the first dozen chaetigers there is a gradual increase in size of the feet from before backwards. In the first two chaetigers (Fig. 28 *b*) the feet consist of a very short anterior lobe and a blunt triangular posterior lobe. By the 3rd chaetiger the posterior lobe is beginning to bud off a dorsal cirriform process (Fig. 28 *c, d*). By the 6th foot the posterior lobe has three slender branchial processes of which the uppermost is the largest. These branchial processes increase in number up to about the 15th chaetiger, where they show a maximum of six filaments (Fig. 28 *e*). The upper is always the largest and perhaps represents a dorsal cirrus. The branchiae disappear by the 32nd chaetiger.

In the postbranchial region the lips of the foot are short, rounded, subequal and the hinder lip is gathered at its apex to a small rounded process (Fig. 28 *f*). The feet are supported by short, dark brown acicula which vary in number according to the region of the body in which the feet are situated. Their maximum number of four or five is reached in the middle of the branchial region.

The first two or three feet have an upper bundle of bordered capillary bristles and a lower bundle of long, rather stout bristles with blunt heads and narrow borders which at first sight are not at all like a lumbrinereid crochet. In fact they are elongate

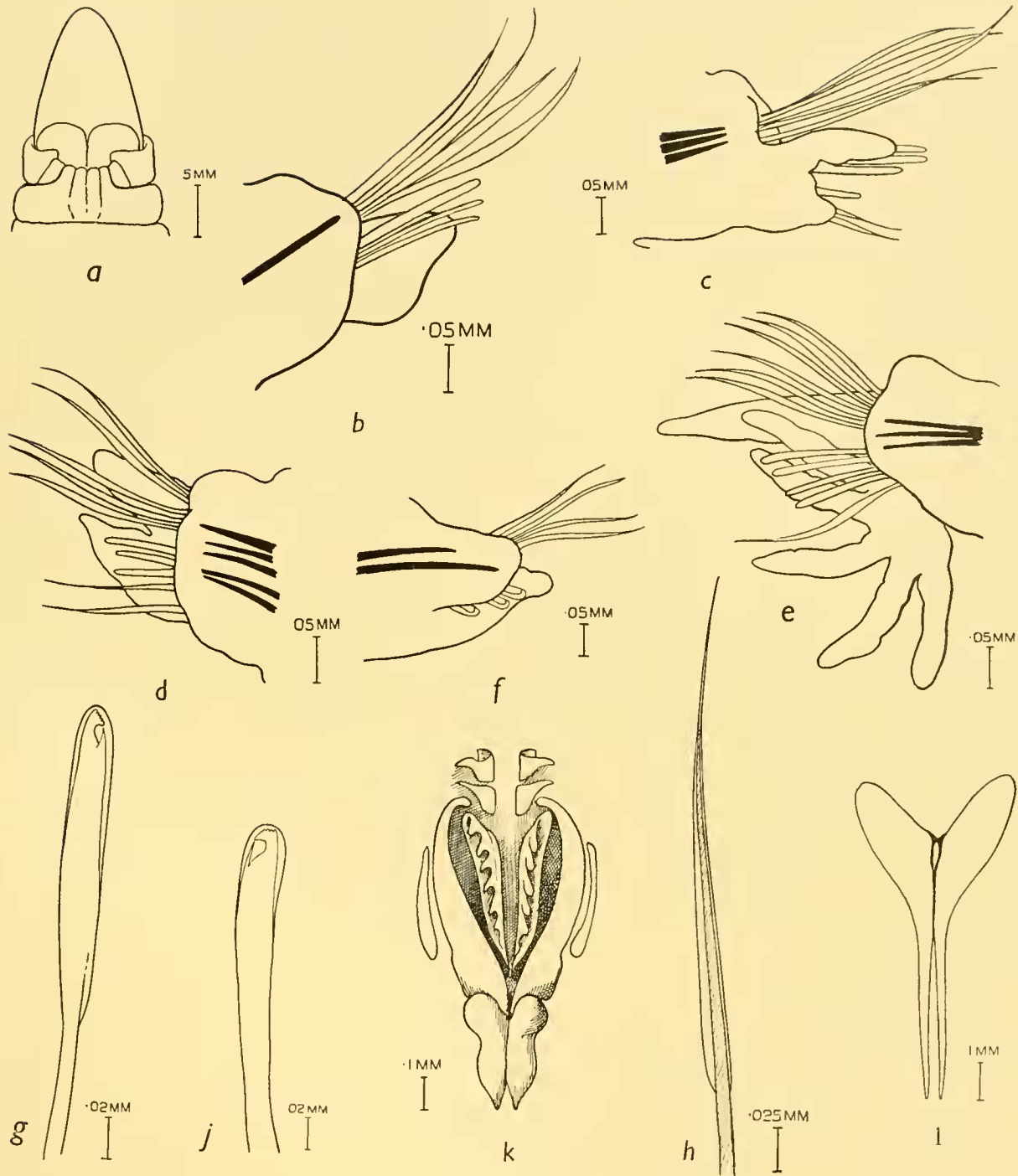


Fig. 28. *Ninoë falklandica*.

- | | |
|--|--|
| a. Ventral view of head. | g. Anterior crochet. |
| b. First foot seen from in front. | h. Bordered capillary bristle from seventeenth foot. |
| c. Fourth foot seen from behind. | j. Posterior crochet. |
| d. Fifth foot seen from in front. | k. Upper jaws. |
| e. Seventeenth foot seen from in front. | l. Lower jaws. |
| f. Foot from hinder region seen from in front. | |

lumbrinereid simple crochets with very long, narrow flanges and small denticulated heads (Fig. 28 *g*). Behind the first two or three feet and throughout the branchial region there are dorsally a number of bordered capillaries (Fig. 28 *h*), below this three or four elongate simple crochets and ventrally a second bundle of bordered capillaries. In the hinder region the ventral bundle of capillaries disappears and the bristles consist of bordered capillaries above and simple crochets below. These simple crochets are normal in form, being shorter and having wider flanges and heads with about seven well-developed teeth (Fig. 28 *i*). The specimen is incomplete behind and the bordered capillaries are continued to the last segment of the fragment.

I figure the jaws (Fig. 28 *k, l*). The carriers of the upper jaws are pointed. There is a pair of accessory plates lying outside the pincers: M. II have six teeth; M. III and M. IV appear each to be unidentate, and whereas the under side of M. III appears to be smooth, that of M. IV is finely denticulated.

REMARKS. The Magellan *N. leptognatha*, Ehlers, seems to be quite distinct. In the first 35 chaetigers there are only capillary bristles and no crochets, and M. III and M. IV are strongly denticulated. I have compared the present specimen with those attributed by me (*loc. cit.*, 1933) to Kinberg's *N. chilensis*. The latter have a very different facies. Apart from the greater complexity of the gills in *chilensis*, to which not much importance may be attached, the second apodous, buccal segment is not involved with the mouth, and the manner of the breaking up of the posterior lip of the chaeta-sac into branchial filaments is different.

According to Kinberg's figure the second buccal segment of his *N. brasiliensis* is here also not involved with the mouth (Kinberg, 1857, pl. xviii, fig. 33 *c*).

Genus *Drilonereis*, Claparède

Head devoid of appendages. Gills and ventral cirri absent, dorsal cirri rudimentary. Bristles winged capillaries and at the base of the foot a large acicular spine. Labrum rudimentary or absent. Upper jaws show a pair of mandibles with very long, delicate supports, a pair of toothed plates and two to three pairs of hooks.

Drilonereis filum (Claparède).

Fauvel, 1923, p. 436, fig. 174 *a-h*.

OCCURRENCE. St. WS 776 (1).

SPECIFIC CHARACTERS. This is an anterior fragment measuring 51 mm. by 2 mm. for 65 chaetigers. A slender, elongate species. The prostomium is dorso-ventrally flattened, lanceolate in outline and often with a median groove. The first buccal segment is longitudinally grooved on the ventral side. The anterior lip of the foot is low, rounded and the hinder is produced into a blunt conical process. At the top of the foot is a bundle of small yellow acicula supporting a rudimentary dorsal cirrus. The acicula supporting the foot have slender protruding tips. The bristles consist of winged capillaries and at the base of the foot a large, light yellow acicular bristle. The jaws are variable. In the present specimen the pincers are very faintly denticulated at their base; M. II have

rather numerous—10 to 12—teeth; M. III have a large tooth, beneath which are one or two minute denticles; M. IV and M. V are unidentate. The labrum consists of a pair of more or less triangular plates.

REMARKS. This specimen shows certain differences from a typical *D. filum*. The capillary bristles are more elongate and narrowly bordered than is usual in this species. Only the anterior end of the animal is preserved, and I assume that the capillary bristles from the middle region would have shown the more typical rather wide wings. Moreover, although I cannot count the teeth of M. II exactly, they seem to be more numerous than in the European examples of this species. These differences do not in my opinion justify a separation. Ehlers has described a species from the Magellan region, *Aracoda tenuis*, which appears to be a *Drilonereis*. If Ehlers's figure of the upper jaws (Ehlers, 1901, pl. xix, fig. 9) is accurate, it would seem to be a distinct species, for it has four heavy teeth at the base of the pincers, M. II have about five large teeth and M. III have three large teeth instead of one main tooth and two or three minute denticles.

Family ARICIIDAE

With hooks in the thoracic region	...	...	...	...	...	...	...	<i>Scoloplos</i>
No hooks in the thoracic region	...	...	...	...	...	...	...	<i>Haploscoloplos</i>

Genus *Scoloplos*, Blainville

Prostomium conical. Buccal segment achaetous. A pair of erect strap-like branchiae on all but a few anterior segments. A somewhat flattened thoracic region passing gradually into a rounded abdominal region. Thoracic feet with an erect dorsal cirrus and a bundle of crenate capillary bristles; in the ventral ramus there are hooks and usually a number of capillary bristles. There may be one to three podial papillae or they may be absent. No subpodial papillae. In the abdominal region an erect dorsal cirrus, capillary bristles and sometimes forked bristles. A ciliated lateral organ takes the place of an intermediate cirrus. Ventral ramus bilobed with capillary bristles. Ventral cirrus often absent.

Scoloplos marginatus (Ehlers).

Aricia marginata, Ehlers, 1897, p. 95, pl. vi, figs. 150-156.

Benham, 1921, p. 77.

Monro, 1930, p. 144.

Nainereis marginata, Fauvel, 1916, p. 445, pl. viii, figs. 26-33.

OCCURRENCE. St. WS 25 (2).

SPECIFIC CHARACTERS. Prostomium bluntly conical. Between 11 and 14 thoracic chaetigers. The strap-like gills begin at the 6th chaetiger. Dorsal cirri lanceolate. Dorsal bristles delicately crenate and capillary. The ventral thoracic rami carry three rows of hooks and no capillary bristles. There are no podial papillae. In the abdominal region the dorsal bristles are long capillaries and forked bristles are sometimes present. The ventral ramus carries a large aciculum with a hooked tip and a few capillary bristles, the latter often disappearing towards the hinder end of the body.

Genus *Haploscoloplos*, Monro

As *Scoloplos*, except that there are no hooks in the thoracic region and an intermediate cirrus may be present in the abdominal region.

Haploscoloplos kerguelensis (McIntosh).

Scoloplos kerguelensis, McIntosh, 1885, p. 355, pl. xliii, figs. 6-8; pl. xxiiA, fig. 19.

OCCURRENCE. St. 164 (numerous juv.); WS 742 (1).

SPECIFIC CHARACTERS. The specimens from St. 164 are all young, measuring between 5 and 10 mm. in length by about 0.5 mm. in breadth. That from St. WS 742 is much larger, incomplete posteriorly and measures about 30 mm. by 2 mm. at the widest part. The prostomium is definitely pointed. The large specimen from St. WS 742 has 14 thoracic chaetigers and the gills begin at the 15th, and in the small specimens there are nine or ten thoracic chaetigers and the gills begin at about the 12th. There is no flattening of the dorsum in the thoracic region. The feet are provided with small, triangular, postchaetal languets and the bristles both dorsally and ventrally are crenate capillaries.

In the hinder region the gill is the usual flattened more or less leaf-shaped structure. The dorsal cirrus increases in size from before backwards and in the young specimens becomes filiform; in the larger specimen, however, it remains narrowly lanceolate and foliaceous rather than filiform. Moreover, the ventral ligule in this specimen has a bifid tip, whereas in the younger specimens it remains single. The bristles are crenate capillaries, the ventral being more slender than the dorsal. In the young specimens the dorsal rami also carry a few forked bristles.

REMARKS. I have examined McIntosh's types and the complete absence of thoracic hooks is irreconcilable with Eisig's view that McIntosh's species is synonymous with *armiger*. Fauvel (1916, p. 443) has given an account of some young specimens of *kerguelensis* from the Falkland Islands which agrees fairly well with the present young examples from the South Orkneys. The forked bristles in the dorsal rami of the hinder region which he records are present in my young specimens, but absent from the larger example. They are probably characteristic of a certain stage of growth. I have not seen any acicular bristles similar to those described by Fauvel for the ventral rami.

Benham holds that the worms referred by Gravier (1911, p. 108) to *kerguelensis* are distinct and conspecific with a number of specimens from off Adélie Land which he has named *S. mawsoni*. Benham's *mawsoni* has 11 anterior segments, no forked bristles or acicula and the gill beginning on the 12th chaetiger. I confess that I am not convinced that Benham's species is more than a stage in the growth of *kerguelensis*. The fact that some of the specimens were sexually mature does not necessarily mean that they were fully grown. My young specimens from the South Orkneys are very close to Benham's account of *mawsoni*, but they have forked bristles which Benham regards as a differential character.

I have described two species of *Haploscoloplos*, *panamensis* from the Panama region and *tortugaensis* from Dry Tortugas. *H. panamensis* differs from *kerguelensis* in having subpodial papillae in the hinder part of the thoracic region and in having bilobed ventral rami in the hinder region. *H. tortugaensis* has an intermediate cirrus in the hinder region.

Family CIRRATULIDAE

Genus *Cirratulus*, Lamarck

Body long and cylindrical. Head conical. First three segments achaetous. Gills beginning on the first few chaetigers and continued over most of the body. Slender tentacular filaments appearing on the same segment as the first pair of gills. Pedal lobes very little developed. Either capillary bristles only in both rami or both capillary bristles and hooks in a certain number of feet.

- | | | | | | | | | | |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----------------------|
| 1. Both capillary chaetae and hooks present | ... | ... | ... | ... | ... | ... | ... | ... | <i>C. cirratus</i> |
| With capillary bristles only | ... | ... | ... | ... | ... | ... | ... | ... | 2 |
| 2. Tentacular filaments on first chaetiger... | ... | ... | ... | ... | ... | ... | ... | ... | <i>C. filiformis</i> |
| Tentacular filaments on 3rd-5th chaetigers | ... | ... | ... | ... | ... | ... | ... | ... | <i>C. antarcticus</i> |

Cirratulus cirratus (O. F. Müller).

Fauvel, 1927, p. 94, fig. 33 *a-g*.

OCCURRENCE. St. WS 25 (2); WS 33 (2); WS 772 (2).

SPECIFIC CHARACTERS. Head bluntly conical. A row of four to eight eyes on each side. Gills from the 1st chaetiger almost to the end of the body. Two groups of slender tentacular cirri, one on each side of the dorsal surface of the 1st chaetiger. Capillary bristles in both rami of the feet, and in addition hooks in the notopodia from about the 20th chaetiger and in the neuropodia from about the 10th.

Cirratulus antarcticus, Monro.

Monro, 1930, p. 155, fig. 59.

OCCURRENCE. St. 144 (4); WS 766 (1).

SPECIFIC CHARACTERS. Head bluntly conical. No eyes. The two postbuccal achaetous segments not clearly distinguished. Gills begin on 3rd chaetiger. About eight pairs of tentacular filaments on the 3rd-5th chaetigers. Capillary bristles only. Hooks absent.

Cirratulus filiformis, Keferstein.

Fauvel, 1927, p. 94, fig. 33 *h*.

OCCURRENCE. St. 28 (numerous).

SPECIFIC CHARACTERS. A large number of small thread-like, broken cirratulids, which appear to belong to this species. Branchiae are present from the 1st chaetiger throughout most of the body. There is a single pair of relatively stout tentacular filaments on the 1st chaetiger. There are capillary bristles only and no hooks.

REMARKS. I believe this to be the first record of this species from Antarctic waters.

Family SPIONIDAE

Genus *Polydora*, Bosc

Prostomium notched or rounded in front, prolonged behind into a blunt crest. Two long ciliated palps. Branchiae begin on the 6th-9th chaetiger, rarely on the 2nd. Fifth chaetiger much modified with special, giant, dorsal bristles. Dorsal and ventral bristles capillary. Hooded bidentate crochets from the 7th-8th foot. An anal sucker.

***Polydora natrix*, Söderström.**

Söderström, 1920, p. 254, figs. 165 and 166, with synonymy.

Polydora polybranchia, Fauvel, *nec* Haswell, 1916, p. 441, pl. viii, figs. 13-20.

OCCURRENCE. St. WS 27 (1).

SPECIFIC CHARACTERS. The single specimen measures about 10 mm. for 55 chaetigers. The prostomium is divided in front into two lobes by a median groove and is continued backwards as a narrow, laterally compressed crest as far as the 2nd chaetiger.

The 1st chaetiger carries dorsal as well as ventral bristles. The first branchia appears on the 2nd chaetiger and branchiae are continued to within about a dozen segments from the end of the body. The hooks begin on the 7th chaetiger. The modified 5th chaetiger carries two rows of large characteristic bristles. The anterior row consists of giant bristles with cup-shaped tips. These cups have a rugose surface and at one place the rim is raised to a low point. The posterior row consists of acicular bristles with hooked tips.

REMARKS. There are several records of this species from South America and the Falkland Islands under the name of *Polydora polybranchia*, Haswell. Fauvel in 1916 pointed out that this form differed from *polybranchia* in the possession of dorsal bristles in the 1st foot, a difference which led Söderström to establish it under a separate specific name.

Family CHAETOPTERIDAE

Genus *Chaetopterus*, Cuvier

Body large and stout, divided into three distinct regions. An anterior region with uniramous feet, paddle-shaped bristles and special modified bristles in the 4th foot. Middle region of five biramous segments, the first carrying a pair of wing-like appendages, the second with the dorsal ramus modified into a rounded sucker-like organ, the remaining dorsal rami fan-shaped. The ventral rami are lamellar, coalescent and carry rows of uncini. The hinder region has biramous feet, the dorsal rami being cylindrical and the ventral bilobed and uncinigerous. Tube horny or parchment-like.

Chaetopterus variopedatus (Renier).

Fauvel, 1927, p. 77, fig. 26 a-n.

OCCURRENCE. St. WS 583 (6); WS 837 (1).

SPECIFIC CHARACTERS. As there appears to be only one species, the specific characters are those of the genus.

Family CHLORHAEMIDAE

Body enveloped in a sheath of mucus	...	...	...	...	...	...	...	<i>Flabelligera</i>
No mucous sheath	...	...	...	...	...	...	...	<i>Stylarioides</i>

Genus *Stylarioides*, Delle Chiaje

Body elongated, cylindrical, sometimes tapering posteriorly into a kind of tail. The surface is papillated. Two large palps; gills filiform, borne on a retractile stalk. Bristles of the first few chaetigers directed forwards to form the cephalic cage. Dorsal bristles

capillary, annulated. Ventral bristles behind the first few chaetigers simple, rarely pseudo-compound, hook-like. Blood green.

Skin densely papillated, ventral hooks stout, unstriated *S. swakopianus*
 Skin sparsely papillated, ventral hooks slender, narrowly striated *S. kerguelarum*

Stylarioides kerguelarum (Grube).

Trophonia kerguelarum, Grube, 1877, p. 539.

McIntosh, 1885, p. 364, pl. xliv, figs. 9-10; pl. xxiii A, figs. 4-6.

Stylarioides kerguelarum, Monro, 1930, p. 159.

Augener, 1932 *b*, p. 113.

OCCURRENCE. St. WS 33 (1).

SPECIFIC CHARACTERS. Sparsely papillated on the dorsal and ventral surfaces, more thickly between the feet where the papillae are long and finger-shaped. The bristles of the first two feet go to form the cage. The dorsal bristles of the normal feet are long and iridescent and spread fan-wise upwards and backwards. They are strongly segmented, and as McIntosh observes and figures the upper part of each segment is dilated distally. The hooks are figured by McIntosh; they are much longer and more slender than in *S. plumosus*, and lightly and narrowly striated except towards the tip which is not strongly hooked. There are about half a dozen of these hooks in each neuropod. They begin at the 3rd chaetiger.

The present specimen is small measuring only 10 mm. by 2 mm. at the widest part for about 25 chaetigers.

This species is distinct from *S. plumosus*. The papillation dorsally and ventrally is sparser, the hooks begin at the 3rd and not the 4th chaetiger and are much longer and more delicate; and the dorsal bristles are much more markedly segmented.

I have not seen Grube's type, but this specimen and those from South Georgia recorded in my 1930 report are conspecific with McIntosh's Challenger specimens which were collected at Kerguelen as was Grube's type. Augener (*loc. cit.*, 1932 *b*) has recorded *S. plumosus* from South Georgia. He claims that the *Trophonia kerguelarum* of Ehlers (1897, p. 107 and 1901, p. 180) belong in fact to *S. plumosus*, but that the *Trophonia kerguelarum* of Ehlers (1908, p. 180) from Kerguelen is a different species with more slender ventral hooks. The latter is presumably the true *kerguelarum* of Grube. He also suggests that the specimens from South Georgia attributed by me (*loc. cit.*, 1930) to *S. kerguelarum* belong to *S. plumosus*. In this he is mistaken.

Stylarioides swakopianus, Augener.

Augener, 1918, p. 433, pl. vii, fig. 234, text-figs. 61 and 62.

Monro, 1930, p. 159.

Stylarioides xanthotricha, Ehlers, *partim*, 1908, p. 119, pl. xvi, fig. 2.

OCCURRENCE. St. WS 4 (3).

SPECIFIC CHARACTERS. I have some hesitation in attributing these specimens to Augener's species because both they and the specimens from Tristan da Cunha attributed by me (*loc. cit.*, 1930) in a previous report to Augener's species differ from

Augener's account in one particular. The hooks begin at the 3rd chaetiger and not at the 4th as Augener states. In other respects they agree closely with Augener's description. Of the three specimens the tail in two is about one-fourth of the length of the rest of the body, and in the third and larger specimen it is about one-half. The latter measurement I believe to be misleading, as the body is much contracted and the tail well expanded. The animals have a shaggy appearance owing to the thick coating of papillae, which are rather longer in front than over the rest of the body. The bristles of the first two feet are directed forward and form a strong cephalic cage. In the normal feet the dorsal bristles are delicate striated capillaries. The hooks of which there are one to three in each neuropod begin at the 3rd chaetiger or first foot behind the cephalic cage. The hooks correspond closely to Augener's figure. There are no transverse striae.

Genus *Flabelligera*, Sars

Body fusiform, soft, enveloped in a thick mucous sheath, in which are embedded two kinds of stalked papillae. Two large palps. Branchiae numerous, retractile, attached to the head. Bristles of the first chaetiger, long, numerous and directed forward: they form the cephalic cage. Dorsal bristles capillary, annulated. From the 2nd chaetiger the neuropods carry one or two large compound or pseudo-compound hooks and a few long, capillary bristles. Blood green.

Flabelligera affinis, M. Sars.

Fauvel, 1927, p. 113, fig. 40 *a-f*; 1916, p. 450, with synonymies.

OCCURRENCE. St. WS 221 (1); WS 762 (1).

SPECIFIC CHARACTERS. Mucous sheath thick. Papillae with long stalks and with either fusiform and elongated or short and clavate ends. The bristles of the first foot form the cephalic cage.

The normal dorsal bristles are striated capillaries and from the 2nd chaetiger the neuropod carries one or two compound or pseudo-compound hooks.

Family OPHELIIDAE

1. No ventral groove	...	...	...	...	...	...	...	...	...	<i>Travisia</i>
A ventral groove present...	...	...	...	...	...	...	...	...	...	2
2. Ventral groove extends over whole length of body	...	...	...	...	...	...	...	...	...	<i>Ammotrypane</i>
Ventral groove absent from anterior region	...	...	...	...	...	...	...	...	...	<i>Ophelia</i>

Genus *Travisia*, Johnston

Body composed of two regions, an anterior cylindrical region and a narrower posterior region rectangular in section. There is a short conical prostomium and a pair of evaginable nuchal organs. The segments are divided by superficial rings. Cirriform branchiae on all chaetigers except the first and a few terminal segments. The posterior region is distinguished by lateral lobes or eminences. Notopods and neuropods reduced to bundles of simple capillary bristles. A lateral organ is present between the two rami. Pygidium in the form of an anal cylinder.

Travisia kerguelensis, McIntosh.

McIntosh, 1885, p. 357, pl. xliii, fig. 10; pl. xxviA, figs. 1-2.

Ehlers, 1897, p. 97, pl. vi, figs. 159-161.

Benham, 1927, p. 123.

Monro, 1930, p. 165, fig. 67 a-c.

OCCURRENCE. WS 766 (1); WS 782 (1).

SPECIFIC CHARACTERS. Between 23 and 27 segments, of which 10-11 are involved in the hinder region. The terminal segments are more or less lacinated or papillated. The anal cylinder comes off rather abruptly from the body.

Genus **Ammotrypane**, Rathke

Body not divided into distinct regions. A deep ventral and two lateral grooves throughout the entire length. There are a small conical prostomium, eyes beneath the skin, and paired evaginable nuchal organs. Segments superficially annulated. Cirri-form branchiae present on all chaetigers except the 1st, and a few terminal segments. The feet have small parapodial lobes and two bundles of simple, capillary bristles. There is an anal cylinder which usually carries papillae.

Thirty-nine chaetigers and a pair of anal appendages	...	...	...	<i>A. scaphigera</i>
Twenty-eight chaetigers and no anal appendage	...	...	...	... <i>A. breviata</i>

Ammotrypane scaphigera, Ehlers.

Ehlers, 1901, p. 172, pl. xxii, figs. 1-4.

OCCURRENCE. St. WS 213 (1).

SPECIFIC CHARACTERS. There are 39 chaetigers and all are branchiate except the first one and the last six. The body ends in a scoop-shaped anal segment with the concavity ventral, at the base of which is a pair of cirriform processes. Ehlers characterizes them as anal branchiae.

The present specimen measures 20 mm. by 1 mm. and is in rather poor condition. It agrees with Ehlers's description in the number of chaetigers and the possession of a pair of anal appendages, but the anal segment is too much damaged for comparison.

Ammotrypane breviata, Ehlers.

Ehlers, 1913, p. 523, pl. xxxix, figs. 1-7.

OCCURRENCE. St. 167 (numerous); WS 215 (3); WS 782 (5).

SPECIFIC CHARACTERS. The larger specimens from St. 167 measure about 34 mm. by 2 mm. for 28 chaetigers and have gills on every segment except the first one and the last four modified chaetigers. The anal cylinder is very faintly and irregularly ringed and its dorsal peak is more prominent than the ventral.

The specimens from St. WS 215 and St. WS 782 are about half the size of the others and all are in poor condition. They have 26 chaetigers instead of 28 and gills on all except the 1st and the last three modified chaetigers. Otherwise they are not separable from the larger forms. Better material might, however, reveal differences.

Genus *Ophelia*, Savigny

Body divided into two distinct regions, an anterior cylindrical region and a posterior region with a deep ventral and two lateral grooves. The head is a small pointed cone with two or three eyes beneath the skin. The segments are divided by superficial rings. Cirriform branchiae are present on all segments except about the first 10 and a few terminal segments. Notopods and neuropods are represented by small bundles of capillary bristles and sometimes by a pair of low rounded lobes. A lateral organ is present between the two rami, and the anal segment carries papillae.

Ophelia bipartita, n.sp. (Fig. 29 *a, b*).

OCCURRENCE. St. WS 742 (4).

DESCRIPTION. A rather massive species. The number of chaetigers is 31, and the largest specimen measures 63 mm. by 7 mm. at the widest part. The colour in spirit is grey. The body is very sharply divided at the 8th chaetiger into two distinct regions (Fig. 29 *a*), as in the *Thoracophelia* of Ehlers, an anterior region of eight chaetigers without a ventral groove and a posterior region of 23 chaetigers with a profound ventral sulcus. The prostomium is a small, pointed cone. The branchiae begin at the 10th chaetiger and there are 17 pairs. Those in the middle of the body are long enough to meet across the back and all are crenate. The last five chaetigers are abranchiate and the last four have specially long bristles and are involved in the anal region.

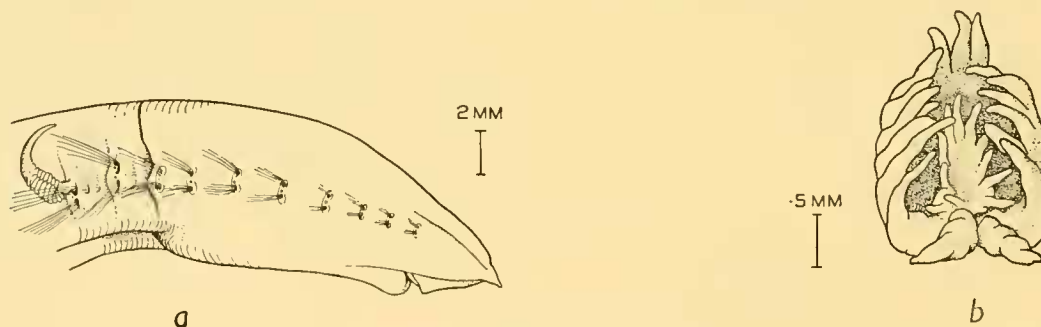


Fig. 29. *Ophelia bipartita*.

a. Anterior region of body seen from side.

b. Anal cylinder seen from behind.

The anus (Fig. 29 *b*) has a pair of stout anal papillae, which are continuations of the lateral ridges, and above these 16 slender papillae. Inside the rectum is a papillated valve. There is a lateral organ in the form of an oval pore between notopod and neuropod in every chaetiger, and nephridial pores are present from the 12th to the 16th chaetigers.

This species then has a very clearly separated anterior region of eight chaetigers, the first nine and the last five chaetigers abranchiate and an intermediate branchiate region of 17 chaetigers.

REMARKS. This species is very close both to the European *O. neglecta*, Schneider, and to the South Australian *O. dannevirgi*, Benham. *O. neglecta* has 32 chaetigers and 18 pairs of branchiae. Moreover, the ventral groove begins at the 10th chaetiger and not

at the 8th as in the present species. *O. dannevigii* has 19 branchiate segments, and according to Benham the ventral groove is continued as far forward as the head, though it does not attain its full width till the 10th chaetiger. This distinguishes it from the present species in which the ventral groove begins suddenly at the 8th chaetiger. The *Thoracophelia furcifera* of Ehlers is a different species with bifid gills.

Family MALDANIDAE

1. Head without a cephalic border...	...	...	...	...	...	...	...	<i>Lumbriclymenella</i>
A cephalic border present	...	...	...	...	...	...	...	2
2. Ventral acicular bristles in the first few chaetigers	...	...	...	...	...	...	...	<i>Clymene</i>
No anterior ventral acicular bristles	...	...	...	...	...	...	...	3
3. Ventral uncini present in 1st chaetiger...	...	...	...	...	...	...	...	<i>Axiothella</i>
Uncini begin on the 2nd chaetiger	...	...	...	...	...	...	...	4
4. Cephalic keel long, high and convex	...	...	...	...	...	...	...	<i>Maldane</i>
Cephalic keel short and flat	...	...	...	...	...	...	...	<i>Asychis</i>

Genus *Clymene*, Savigny

An oblique, bordered cephalic plate. Nuchal organs more or less parallel. Acicular ventral bristles in the first three chaetigers. Dorsal bristles of two kinds. Pygidium funnel-shaped and bordered with cirri.

Anus sunk at the bottom of the pygidial funnel; all anal cirri equal: subgenus *Isocirrus*.

Clymene (*Isocirrus*) *yungi* (Gravier).

Isocirrus yungi, Gravier, 1911, p. 122, pl. ix, fig. 109; pl. x, figs. 115-120.

Benham, 1921, p. 106.

Monro, 1930, p. 171.

OCCURRENCE. St. 144 (1); 190 (1).

SPECIFIC CHARACTERS. There are 18 chaetigers and six achaetous ante-anal segments. The cephalic plate is almost at right angles to the main axis of the body. There is no cephalic keel. There is a pair of slightly divergent hook-shaped nuchal organs, in length rather less than half that of the cephalic plate. Behind the nuchal organs the plate is ridged transversely. The border is narrow and incised laterally. The part behind the lateral incisions is crenate.

For the first eight or nine chaetigers there are well-developed prechaetal glandular bands, which in contracted specimens to some extent overlap the hinder borders of the preceding segments. Farther back the prechaetal glandular bands diminish, but the uncinigerous glandular pads increase in size and in the hinder region are very prominent.

The first three chaetigers carry bundles of dorsal bristles and ventrally two or three stout acicular bristles. The hooks begin at the 4th chaetiger. The dorsal bristles are of two kinds: (1) narrowly bordered bristles with barbed tips, and (2) capillary barbed bristles. The hooks have about four teeth above the main fang.

The achaetous, ante-anal region is rather short, being equal in length to about the last three chaetigers. The anus lies at the bottom of the anal funnel, which is surrounded by a circlet of about 30 short, equal cirri.

Genus *Axiothella*, Verrill

A bordered cephalic plate. Nuchal organs long, more or less parallel. Ventral denticulated uncini present from the 1st chaetiger. Anus conical, protuberant, surrounded by a short funnel fringed with unequal cirri.

Axiothella antarctica, Monro (Fig. 30).

Monro, 1930, p. 175, fig. 72 a-c.

Augener, 1932 a, p. 49.

OCCURRENCE. St. 167 (3).

REMARKS. A few fragments come from the same station as that from which most of the type-material was collected. Unfortunately no complete specimen has yet been obtained, so that a precise specific diagnosis cannot be made. Among these fragments is one posterior end which shows five ante-anal achaetous segments and a pygidium (Fig. 30). The anus consists of a short cone surrounded by a cirlet of about 15 short, more or less equal cirri, and at the most ventral point there is a long flagelliform cirrus. Augener regards this species as close to *Clymene minor* (Arwidsson). The latter species has a very different head with short nuchal organs, and the anterior border of the 4th chaetiger overlaps the 3rd chaetiger. Moreover, the anterior ventral acicular bristles of the first three chaetigers are different from the hooks of the present species.



Fig. 30. *Axiothella antarctica*.
Pygidium seen from the side.

Genus *Maldane*, Grube

Head in the form of a convex keel. There is a border divided into three sections by a pair of deep lateral incisions. Nuchal organs short, more or less straight. Dorsal bristles of three kinds. Ventral uncini, absent from the 1st chaetiger, begin on the 2nd. Anus dorsal. Pygidium in the form of an oval, bordered plate. The border is normally incised laterally and has the ventral region smooth or crenate.

Maldane sarsi, Malmgren, var. *antarctica*, Arwidsson.

Arwidsson, 1911, p. 32, pl. i, figs. 23-26; pl. ii, figs. 50-54.

OCCURRENCE. St. 167 (1).

SPECIFIC CHARACTERS. Nineteen chaetigers and two ante-anal achaetous segments. Prostomium rounded. A long and very high cephalic keel. Nuchal organs short, divergent and slightly curved. Cephalic border incised laterally, otherwise entire.

Anterior region unpigmented. A glandular crescent on the dorsal surface of the 5th chaetiger. Dorsal bristles of three kinds: (1) geniculate bristles with broad wings, (2) straight, bilimbate bristles with long barbed tips, (3) delicate, capillary, barbed bristles. There are no ventral hooks or bristles in the 1st chaetiger. The remaining neuropods carry rows of hooks.

Anus dorsal. Anal plate slightly oblique with the border laterally incised. The ventral section of the border is either smooth or slightly crenate.

REMARKS. Arwidsson separates this variety from the northern stem-form on slight differences in the distribution of the glandular areas on the ventral surface of the anterior region, and on the relative shortness of the main fang of the hooks. The grounds of separation seem very slight.

Genus *Lumbriclymenella*, Arwidsson

Head without a cephalic border. Nuchal organs V-shaped. Ventral acicular bristles in the first four chaetigers. Dorsal bristles of two kinds. Pygidium obliquely truncated with no cirri, plate or border. Anus more or less dorsal.

Lumbriclymenella robusta, Arwidsson.

Arwidsson, 1911, p. 3, pl. i, figs. 1-4; pl. ii, figs. 32-36.

Fauvel, 1916, p. 456.

OCCURRENCE. St. WS 765 (3); WS 771 (3); WS 877 (1 juv.).

SPECIFIC CHARACTERS. A rather slender species measuring 2-3 mm. in breadth. None of my specimens is complete. The dorsal surface of the anterior end is strongly pigmented with reddish brown colour. The nuchal organs are V-shaped. There are 19 chaetigers and three achaetous ante-anal segments. The first four chaetigers have ventral acicular bristles in place of hooks. The dorsal bristles are of two kinds, a rather shorter kind with the border more developed on one side than on the other, and a longer, more slender kind with striated tips. The ventral hooks show about three teeth in profile above the main fang.

The anus is upturned and dorsal and beyond it there extends ventrally a short tongue-shaped process.

REMARKS. As Fauvel has already pointed out, the genus *Lumbriclymenella* is distinguished from *Lumbriclymene* only by the possession of V-shaped instead of U-shaped nuchal organs and a rather more dorsal anus, characters which are scarcely of generic status.

Genus *Asychis*, Kinberg

Head an oval or rounded plate fringed by a border divided into three sections by a pair of deep lateral incisions. No raised keel. Nuchal organs large and curved. Dorsal bristles of three kinds. Uncini, absent from the 1st chaetiger, begin on the 2nd. Achaetous, ante-anal region rudimentary. Anus dorsal. Pygidium in the form of a slanting plate fringed by a border divided by a pair of lateral incisions. The border may be smooth or crenate.

Asychis amphiglypta (Ehlers) (Fig. 31).

Maldane amphiglypta, Ehlers, 1897, p. 119, pl. viii, figs. 187-193.

Asychis amphiglypta, Arwidsson, 1911, p. 35, pl. i, figs. 27-31; pl. ii, figs. 55-58.

Monro, 1930, p. 172.

OCCURRENCE. St. 30 (4); WS 777 (5).

SPECIFIC CHARACTERS. Up to about 230 mm. in length. The head is very oblique. Border of cephalic plate divided into three lobes by two profound lateral notches. Hinder border smooth. Nuchal organs long, shaped like a fishhook. There are 19 chaetigers: the buccal and anal segments alone are achaetous. There are no hooks in the first chaetiger. Dorsal bristles of three kinds: (1) stout, narrowly bordered bristles with long, slender, barbed tips; (2) short bristles with broad wings and delicate smooth tips; (3) fine barbed capillary bristles. The ventral hooks have strong subrostral barbules, a row of four parallel teeth, two large and two small above the main fang, and above these a number of denticles.

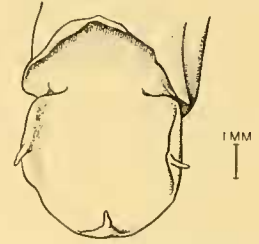


Fig. 31. *Asychis amphiglypta*. Anal plate.

The anal plate is very oblique. Ventrally it forms a deep hood or pouch separated by profound lateral incisions from the more dorsal part of the plate. Just above the lateral notches the border forms a pair of lobes which in some of these specimens are pinched out in the middle into a pair of small cirri; and again the border at its most dorsal and terminal point usually forms a small peak which in some specimens narrows down to a small cirrus. In fact there may or may not be three small cirri, a pair of lateral and a terminal cirrus, arising from the border of the anal plate (Fig. 31).

Family SABELLARIIDAE

With 3 rows of paleae ...	...	...	...	...	...	...	...	...	...	<i>Sabellaria</i>
With 2 rows of paleae ...	...	...	...	...	...	...	...	...	...	<i>Idanthysus</i>

Genus *Sabellaria*, Lamarck

Opercular peduncles more or less fused. Three concentric rows of paleae. No dorsal hooks. A pair of slender palps and sometimes a median tentacle. Numerous filiform tentacles on the ventral face of the peduncles. First and second segments with a bundle of capillary chaetae. Three biramous parathoracic segments. Falciform dorsal branchiae. In the abdominal region the dorsal rami carry small uncini and the ventral capillary bristles. A smooth, achaetous cauda.

Opercular peduncles completely fused: Subgenus *Phragmatopoma*

Inner paleae slender, distally elongate ...	...	...	...	...	...	<i>S. (Phr.) moerchi</i>
Inner paleae stout, roughly funnel-shaped ...	...	...	...	...	...	<i>S. (Phr.) antipoda</i>

Sabellaria (*Phragmatopoma*) *antipoda*, Augener.

Sabellaria antipoda, Augener, 1926, p. 221, fig. 16 a-c.

OCCURRENCE. St. 936, New Zealand (1).

SPECIFIC CHARACTERS. A single very small specimen in poor condition. It measures 8 mm. by 0.5 mm. with a cauda 1 mm. in length. The opercular peduncles appear to be completely fused and the opercular crown is only slightly oblique. There are three concentric rows of opercular paleae which correspond closely to Augener's figures. The geniculate outer paleae have a rather long and narrow shield ending in the middle in a

kind of delicate plume, at each side of which there are three or four teeth. The distal part of the middle paleae is in the form of a tapering, elongated hook. The inner paleae have the curious almost funnel-shaped appearance figured by Augener. There are only three parathoracic segments.

REMARKS. The condition of my material precludes my adding anything to Augener's description. The combination of the slender middle paleae with the curious very stout inner paleae appears to be characteristic.

Sabellaria (Phragmatopoma) moerchi (Kinberg).

Kinberg, 1867, p. 349.

Johansson, 1926, p. 4, fig. 1 (2-8); and 1927, p. 101.

OCCURRENCE. St. WS 762 (4).

SPECIFIC CHARACTERS. The largest specimen measures 15 mm. for the body and 4 mm. for the cauda, with a breadth of 2 mm. at the widest part for about 32 chaetigers. The opercular peduncles are completely fused and the circular crown of paleae is very slightly truncated obliquely. The small, pale yellow, geniculate, shovel-shaped outer paleae form a fringe round the large dark brown middle paleae, which completely hide the slender golden inner paleae. The paleae are figured by Johansson (*loc. cit.*, figs. 2-4). The outer paleae consist of rectangular shields which curve sharply outwards and upwards away from the slender basal spine. Apically the shield gives off three processes, a large central comb-like process and a pair of claw-like processes at the sides. The middle paleae are large spines, delicately striated transversely, with a basal piece coming off at right angles a short distance above the outer end. The inner paleae are in shape similar to the middle paleae, but very much thinner and more delicate.

I can see no median tentacle. Otherwise the arrangement of the palps, buccal veil, buccal lobes, etc., shows nothing characteristic. The opercular peduncle is long, the distance from the mouth to the operculum being about equal to that from the mouth to the end of the parathoracic region. There are no dorsal hooks, but on opening up the opercular peduncle from the dorsal surface four groups of hooks can be seen, each group consisting of a pair of paleae resembling the middle and inner paleae of the operculum. The paleae point forwards towards the operculum. The groups are arranged in two pairs, one behind the other, and the hooks of the hinder pair are smaller than those in front. The bristles of the first chaetiger are arranged in a fan-shaped transverse row. About the last 15 chaetigers are abranchiata.

REMARKS. I can find nothing significant to distinguish this species from Johansson's account of Kinberg's *Phragmatopoma lapidosa*. Gravier's Peruvian *Sabellaria fauweli* is also synonymous. Johansson claims that Grube's *Sabellaria castelnaui* also belongs here, but Augener who has examined the type and figured the paleae shows an outer palea without the lateral claws at the apex which is more like that of *Sabellaria virgini*, Kinberg, as redescribed by Ehlers. Augener has, however, pointed out that the outer paleae in the two species differ. Moreover, certain differences in the processes at the apex of the outer paleae are all that I can find to distinguish *virgini* from the present species.

Genus *Idanthyrus*, Kinberg

Opercular peduncles long, more or less separate. Two rows of paleae. Dorsal hooks present. A pair of slender palps and usually a median tentacle. Numerous filiform tentacles on the ventral face of the peduncles. First and second segments with a bundle of capillary bristles. Three biramous parathoracic segments. Cirriform dorsal branchiae. In the abdominal region the dorsal ramus carries small uncini and the ventral capillary bristles. A smooth, achaetous cauda.

Idanthyrus armatus, Kinberg.

Pallasia sexungula, Ehlers, 1897, p. 125, pl. viii, figs. 194-202.

Idanthyrus armatus, Johansson, 1927, p. 90; Monro, 1930, p. 177, fig. 73.

OCCURRENCE. St. WS 216 (numerous); WS 223 (10); WS 243 (4, with tubes); WS 244 (1); WS 755 (3); WS 785 (3); WS 788 (1); WS 796 (10); WS 797 (4); WS 801 (6); WS 805 (4); WS 807 (3); WS 813 (6); WS 814 (2); WS 825 (2); WS 851 (1); WS 866 (2); WS 867 (5).

SPECIFIC CHARACTERS. Two rows of paleae. The opercular peduncles are completely separate. The opercular crown is very obliquely truncated. The paleae are golden and the outer row consists of long pinnate paleae of a characteristic appearance (*vide* Monro, *loc. cit.*, fig. 73). The inner paleae are long smooth hooks with narrow transverse striae. There are usually three (in young examples two) pairs of dorsal hooks. A median tentacle is present. Gills are absent from the last few chaetigers only.

REMARKS. This species is very common in the Falkland Island area. It appears to extend a long way up the west coast of America. I have myself recorded it from Gorgona Island and Johansson is very doubtful whether Chamberlin's *I. ornamentatus* from California is separable.

Family AMPHICTENIDAE

Genus *Pectinaria*, Lamarck

Tentacular membrane with a denticulated edge. Dorsal border smooth or crenate. Scapha separated from the abdomen by a constriction. No eyes on the scapha. Two pairs of branchiae. A single pair of cement glands. Three pairs of nephridia, the first pair markedly longer than the rest. Dorsal bristles of two kinds. Uncini pectiniform with teeth of different sizes.

Pectinaria ehlersi, Hessele.

Pectinaria belgica, Ehlers, *nec* Pallas, 1901, p. 204.

Pectinaria ehlersi, Hessele, 1917, p. 77, pl. i, fig. 1, text fig. 3 *a-e*.

Pectinaria (Cistenides) ehlersi, Nilsson, 1928, p. 33, fig. 10 *a, b*.

OCCURRENCE. St. WS 212 (1); WS 236 (1).

SPECIFIC CHARACTERS. Tentacular membrane with 20-30 processes. Up to about 15 paleae on each side. Seventeen chaetigers, of which 13 (from the 4th to the 16th) are uncinigerous. Dorsal bristles of two kinds—straight, narrowly bordered bristles with delicately hirsute ends; and bristles with curved tips strongly denticulated on the concave side. In profile the uncini have four large teeth above the finely denticulated basal

region. This is the most easily appreciable difference between *ehlersi* and *belgica* which has hooks with seven to eight teeth in profile instead of four.

REMARKS. The present material consists of one ill-preserved complete specimen (St. WS 236) measuring 21 mm. by 3 mm. at the widest part, and one anterior fragment of about eight chaetigers.

Nilsson attributes this species to the subgenus *Cistenioides* which he separates from *Pectinaria*, *sensu* Malmgren, almost entirely on the presence in the former of a granular area on the dorsal surface of the segment preceding the scapha. I am not convinced that any good purpose is served by retaining these subgenera. The rather ill-preserved scapha in the present specimen corresponds to Hesse's figure except that I cannot see the two lateral papillae at the sides of the anal ligule, and the hinder border of the latter appears to be faintly crenate and not smooth, as Hesse figures it. The tube is composed of small brown sand-grains and is very slightly curved.

Family AMPHARETIDAE

1. Paleae present	...	...	...	...	...	...	...	...	...	...	...	2
Paleae absent	...	...	...	...	...	...	...	...	...	...	...	3
2. Tentacles smooth...	...	...	...	...	...	...	...	...	...	...	...	<i>Amphicteis</i>
Tentacles pinnate	...	...	...	...	...	...	...	...	...	...	...	<i>Ampharete</i>
3. Tentacles pinnate	...	...	...	...	...	...	...	...	...	...	...	<i>Neosabellides</i>
Tentacles smooth...	...	...	...	...	...	...	...	...	...	...	...	4
4. Prostomium trilobate	...	...	...	...	...	...	...	...	...	...	...	<i>Amage</i>
Prostomium rounded, without lobes	...	...	...	...	...	...	...	...	...	...	...	<i>Phyllocomus</i>

Genus *Ampharete*, Malmgren

Prostomium distinctly trilobate, without raised glandular bands. Tentacles pinnate. Branchiae four pairs. Paleae well developed. First notopod reduced. No dorsal cirri in the thoracic region, but present in the form of small tubercles in the abdominal region. Often small neuropodial cirri above the pinnules in the abdominal region. Anal cirri present.

Ampharete kerguelensis, McIntosh.

McIntosh, 1885, p. 426, pl. xlvii, fig. 10; pl. xxviiA, figs. 22-24.

Hesse, 1917, p. 100.

Augener, 1926, p. 223 and 1932 a, p. 57.

OCCURRENCE. St. WS 177 (4).

SPECIFIC CHARACTERS. The largest specimen measures 20 mm. by 2 mm. The two groups of gills are joined across the back by a transverse fold of the integument.

The rather blunt apexes of the paleae are surmounted by delicate filiform tips. There are 14 pairs of thoracic notopods and 12 of abdominal neuropods. The dorsal cirri in the abdominal region are very little developed and there are apparently no neuropodial cirri. The bristles are bordered capillaries, and the thoracic hooks have two vertical rows each of five to six teeth: the abdominal hooks have three vertical rows each of about five teeth. The anus is papillated.

Genus *Amage*, Malmgren

Body rather stout. Prostomium clearly trilobate, with raised glandular ridges. Tentacles smooth. Branchiae three to four pairs. No paleae. First and second notopods sometimes reduced. Dorsal cirri present in the thoracic region and both dorsal and neuropodial cirri in the abdominal region. Uncini begin on 4th chaetiger.

Amage sculpta, Ehlers.

Ehlers, 1908, p. 141, pl. xx, figs. 1-9.

Hessle, 1917, p. 121.

Monro, 1930, p. 180.

OCCURRENCE. St. 182 (1); 366 (3).

SPECIFIC CHARACTERS. These specimens are in poor condition. Body thick and slug-like, sharply tapered posteriorly. Up to about 30 mm. in length by 6 mm. at the widest part. The gills are not fused basally and the two groups of four gills are clearly separated. There are 14 pairs of thoracic notopods, of which the first two pairs have the bristles more or less inclosed within the notopodial lobes. There are 10 pairs of abdominal neuropods. The dorsal cirri are well developed, especially in the abdominal region where they are clavate. Small neuropodial cirri are also present in the hinder region. The bristles are bordered capillaries. The hooks have usually four teeth in profile, all the teeth being single except those of the third row which are double or paired. One of the specimens from St. 366 shows five teeth in profile with paired teeth in the fourth row. There appears to be a pair of short dorsal anal cirri.

Genus *Phyllocomus*, Grube

Prostomium rounded, not distinctly trilobate. No raised glandular bands. Tentacles smooth. Four pairs of gills. No paleae. Dorsal cirri present in thoracic region and both dorsal and neuropodial cirri in the abdominal region. No reduction of the notopods in the first two chaetigers. Anus surrounded by a circlet of large papillae or cirri.

Phyllocomus crocea, Grube.

McIntosh, 1885, p. 427, pl. xlvii, fig. 11; pl. xxviiA, fig. 25; pl. xxxviiA, fig. 6.

Hessle, 1917, p. 123.

Monro, 1930, p. 181, fig. 75 a-c.

Augener, 1932A, p. 82, fig. 10 a, b.

OCCURRENCE. St. 363 (4); 371 (2); WS 877 (1).

SPECIFIC CHARACTERS. Up to 83 mm. in length. The cephalic lobe is rounded and not distinctly trilobate. It is usually splashed with dark red pigment. There is a pair of crescentic nuchal organs. There are four pairs of gills. The two outer pairs consist of a rounded central axis on each side of which is a membrane. The two inner pairs have four membranes coming off from the central axis. There is considerable variation in the width of the branchial membranes especially in the outermost pair of gills. There are 15 pairs of thoracic notopods and about 45 pairs of abdominal neuropods. Dorsal cirri are well developed in the anterior abdominal region, but decrease in size posteriorly.

Neuropodial cirri more prominent in the hinder abdominal region than in the anterior. The bristles are bordered capillaries with a curious third flange and the hooks have five teeth in a single row. The anus is surrounded by a circlet of cirri of different lengths.

REMARKS. Augener is sceptical of the existence of the third flange on the bristles as figured both by Benham (1921, p. 98) and myself. I have examined the bristles of the present specimens and careful focussing shows a projecting rib or flange running down the middle of the lower part of the bristles. I am inclined to agree with Augener that Benham's (*loc. cit.*) *P. dibranchiata* belongs to this species.

Genus *Neosabellides*, Hesse

Prostomium not distinctly trilobate, without raised glandular bands. Tentacles pinnate. No paleae. No parapodia on the third segment. Branchiae three pairs. No dorsal cirri in the thoracic region; in the abdominal region they are only slightly developed. Neuropodial cirri on a certain number of abdominal segments. There is a pair of anal cirri.

Neosabellides elongatus (Ehlers).

Sabellides elongatus, Ehlers, 1913, p. 551, pl. xlii, figs. 1-6.

Neosabellides elongatus, Hesse, 1917, p. 104.

OCCURRENCE. St. WS 177 (3).

SPECIFIC CHARACTERS. About half a dozen long, very slender tubes of green mud, from which I have extracted three specimens. The largest measures 25 mm. by 1 mm. The two groups of gills are well separated. There are 14 pairs of thoracic notopods and 19 of abdominal neuropods. These specimens are sexually mature and the abdominal region has the body wall very thin and distended with eggs or sperm. In these specimens I cannot see either the dorsal or the neuropodial cirri in the hinder region. According to Hesse the last 17 neuropods have small, stumpy neuropodial cirri. The bristles are bordered capillaries. In the thoracic region the hooks have two vertical rows each of four teeth, and in the abdominal region they have three vertical rows each of four to five teeth. The anus is papillated and there is a pair of anal cirri.

Genus *Amphicteis*, Grube

Prostomium clearly trilobed, with two raised glandular bands. Tentacles smooth. Branchiae four pairs. Paleae well developed. Seventeen thoracic chaetigers. Uncini from the 4th chaetiger. A stout dorsal cirrus in the thoracic and in the abdominal regions and usually a neuropodial cirrus in the abdominal region. A pair of anal cirri.

Paleae much longer than the dorsal bristles... .. *A. gunneri*, var. *antarctica*

Paleae rather shorter than the dorsal bristles *A. philippinarum*

Amphicteis philippinarum, Grube.

Hesse, 1917, p. 118, text-fig. 22 a, b.

Augener, 1926, p. 228.

OCCURRENCE. St. 936, New Zealand (1); 939, New Zealand (1).

7.	Lateral lobes on the first few segments...	...	...	...	...	...	...	...	8
	No lateral lobes on the first few segments	...	...	...	...	...	...	...	9
8.	Dorsal bristles with denticulated ends ...	...	...	...	...	...	...	...	<i>Amphitrite</i>
	Dorsal bristles smooth ...	...	...	...	...	...	...	...	<i>Polymnia</i>
9.	Notopods begin on third segment. Dorsal bristles with denticulated ends...	...	...	...	...	...	...	...	<i>Neoleprea</i>
	Notopods begin on fourth segment. Dorsal bristles smooth...	...	...	...	...	...	...	...	<i>Nicolea</i>
10.	Prostomium enlarged, lobed. No branchiae ...	...	...	...	...	...	...	...	<i>Polycirrus</i>
	Prostomium without lobes. Filiform branchiae present	...	...	...	...	...	...	...	11
11.	Notopods begin on second segment ...	...	...	...	...	...	...	...	<i>Streblosoma</i>
	Notopods begin on third segment	...	...	...	...	...	...	...	<i>Thelepus</i>

Subfamily AMPHITRITINAE

Tentacular lobe of head not enlarged. Uncini in double rows over a certain number of segments.

Genus *Amphitrite*, O. F. Müller

Two, or more commonly three pairs of branchiae, usually ramified, exceptionally cirriform and arising from a common base. Lateral lobes present in the anterior region. The notopods begin at the fourth segment and the neuropods at the fifth. The bristles have denticulated tips. The hooks are in double rows over a certain number of segments.

A high dorsal collar on the fourth segment	...	...	...	...	...	...	<i>A. kerguelensis</i>
No dorsal collar on the fourth segment	...	...	...	...	...	...	<i>A. affinis</i> , var. <i>antarctica</i>

Amphitrite kerguelensis, McIntosh.

Hessle, 1917, p. 186, with synonymy.

OCCURRENCE. St. 599 (1); WS 228 (1); WS 248 (1).

SPECIFIC CHARACTERS. Three pairs of gills, of which the third pair is attached to a high dorsal collar on the fourth segment. Well-developed lateral lobes on the second, third and fourth segments. About 13 ventral gland shields. The notopods begin on the fourth segment and there are 17 pairs. The bristles are bordered and have denticulated tips. The hooks begin on the fifth segment, and are in double rows from the seventh to the sixteenth unciniger. There are about three rows of teeth above the main fang.

Amphitrite affinis, Malmgren, var. *antarctica*, var. nov.

Amphitrite edwardsi, Monro, nec Quatrefages, 1930, p. 189, fig. 79 a-c.

OCCURRENCE. St. WS 225 (1); WS 583 (1); WS 765 (3 juv.); WS 785 (3); WS 801 (2); WS 804 (5).

SPECIFIC CHARACTERS. Differs from the stem-form in that the gills are more richly branched, the lateral lobes of the fourth segment are only very slightly developed, and the nephridia extend from segments 3 to 12 instead of from 3 to 8.

With more material at my disposal I have come to the conclusion that this is a southern variety of the northern and Arctic *A. affinis*. A fully grown example may measure as much as 120 mm. in length for about 90 chaetigers, but the present form is closer to *affinis* than to *edwardsi* in size. Unfortunately the only specimens in the Museum collection labelled *affinis* are of little use for purposes of comparison, and I have relied on a comparison of the present specimens with Fauvel's (1927, p. 246, fig. 84 k, l) account of the northern form.

The thorax is thick and arched dorsally. There are no eye-spots. There are large lateral flaps on the second and third segments and a small one on the fourth. There are 11 ventral gland shields. Each of the three pairs of gills consists of a pair of stout and richly branched trunks. The nephridia extend from the third to the twelfth segments. There are 17 thoracic notopods. The dorsal bristles have distinct borders and a long denticulated apex. The double rows of hooks extend from the seventh to the sixteenth uncinigers. The hooks have about six rows of teeth above the main fang. Posteriorly the abdominal tori are gradually transformed into narrow pinnules.

REMARKS. I suspect that *Amphitrite variabilis*, Risso of Ehlers (1901, p. 208), from Puerto Condor belongs here.

Genus *Leaena*, Malmgren

No gills. The anterior segments are usually furnished with lateral lobes. The notopods begin on the fourth segment and the neuropods on the fifth. The dorsal bristles are smooth and widely bordered. The hooks are in two rows from about the eleventh to the twentieth segment.

10-11 thoracic chaetigers ...	...	...	...	...	...	...	<i>L. abbranchiata</i> , var. <i>antarctica</i>
17 thoracic chaetigers ...	...	...	...	...	...	...	<i>L. collaris</i>

Leaena abbranchiata, Malmgren, var. *antarctica*, McIntosh.

Hessle, 1917, p. 197.

Benham, 1927, p. 106.

Leaena antarctica, McIntosh, 1885, p. 462, pl. xlvi, figs. 9 and 10; pl. xxviiiA, figs. 10 and 11.

OCCURRENCE. St. 45 (1).

SPECIFIC CHARACTERS. A single, damaged, immature specimen measuring about 10 mm. by 1 mm. No eye-spots. Lateral lobes on the second, third and fourth segments. Those on the fourth segment very little developed. The third segment has a low and inconspicuous collar on the dorsal surface. There are 10-11 thoracic chaetigers and about 10 ventral gland shields. The bristles have broad wings and long and fine tips. Above the main fang of the hooks there is a row of teeth surmounted by about three rows of denticles.

Leaena collaris, Hessle.

Hessle, 1917, p. 198, pl. ii, figs. 9, 10, text-fig. 52 a-c.

Monro, 1930, p. 188.

OCCURRENCE. St. 123 (1); MS 15 (3).

SPECIFIC CHARACTERS. One specimen from St. MS 15 is very large and measures about 70 mm. by 4 mm. at the widest part for 55 chaetigers. There are no eye-spots. Lateral lobes present on the second, third and fourth segments. The third segment has a well-developed lobed or crenate collar on the dorsal surface. There are 17 thoracic chaetigers and 11 ventral gland shields. The bristles have wide wings and very long and fine tips. The hooks have four or five rows of small teeth above the main fang.

REMARKS. The larger specimens from St. MS 15 have two rows of very conspicuous, oval, white, glandular pads lying just above and between the notopods of the first 12 chaetigers. These are not apparent in the small specimen from St. 123, which measures only 25 mm. in length. Their development is probably related to sexual maturity.

Genus *Nicolea*, Malmgren

Two pairs of ramified branchiae. No lateral lobes on the anterior segments. 15–22 thoracic chaetigers. Notopods begin on the fourth segment and neuropods on the fifth. The bristles are smooth. The hooks are in double rows over a certain number of segments.

Nicolea chilensis (Schmarda).

Hessle, 1917, p. 172.

Monro, 1930, p. 191.

OCCURRENCE. St. 936, New Zealand (2); WS 755 (5); WS 756 (3); WS 762 (8).

SPECIFIC CHARACTERS. Eye-spots present. The New Zealand specimens (St. 936) and the specimens from St. WS 762 have 17 thoracic chaetigers and those from the other two stations have 18 thoracic chaetigers. There are 17 ventral gland shields. No lateral lobes anteriorly. The bristles are bordered and smooth. The hooks have above the main fang a row of between two and five transverse teeth surmounted by a few denticles.

REMARKS. From the material of the Swedish Southpolar Expedition Hessle records some specimens with 18 thoracic chaetigers and others with 17. Augener, on the other hand, found 18 to be the constant number of thoracic chaetigers in his New Zealand specimens. Hessle includes within *chilensis* the specimens from Auckland Island attributed by Ehlers to this species. Ehlers states that the number of thoracic chaetigers varies between 17 and 22. I have examined these specimens and actually out of the ten specimens five have 20 thoracic chaetigers, two have 21, the twenty-first being much reduced, one has 19 and the neuropod of the twentieth intermediate in form between those of the thorax and of the abdomen, and two have 18. The two last probably belong to *chilensis* and the remainder to Augener's *N. maxima*, which appears to be a good species and constantly has two or three more thoracic chaetigers than *chilensis*.

The position of *chilensis* does not seem to me quite satisfactory because a *chilensis* with 17 thoracic chaetigers is very difficult to distinguish from the European *N. venustula*. According to Hessle the nephridial papillae in *chilensis* are chimney-shaped in both sexes, whereas in *venustula* they are long and cirriform in the male and short and chimney-shaped in the female. There appears to be little else to distinguish the two forms.

Genus *Polymnia*, Malmgren

Three pairs of ramified branchiae. Lateral lobes present on the anterior segments. The first notopods are on the fourth segment and the first neuropods on the fifth. The bristles are smooth and the hooks are in double rows over a certain number of segments.

Polymnia nebulosa (Montagu).

Fauvel, 1927, p. 257, fig. 89 *a-g*.

OCCURRENCE. St. WS 840 (5).

SPECIFIC CHARACTERS. A very conspicuous dark band of eye-spots across the cephalic lobe. Lateral lobes on the second, third and fourth segments. Seventeen thoracic chaetigers. Bristles narrowly bordered and smooth. Hooks in double rows from the seventh to the sixteenth unciniger. Above the main fang there is a pair of large parallel teeth surmounted by a crest of one to five denticles.

REMARKS. I have compared these specimens with some European examples of this species and I can find no grounds for separation. *P. nebulosa* has an almost cosmopolitan distribution, but to the best of my knowledge this is the first record of it as far south as the Falkland Islands.

Genus **Neoleprea**, Hesse

Two pairs of ramified gills. No lateral lobes in the anterior region. The notopods begin on the third segment and the neuropods on the fifth. The bristles have strongly denticulated tips. The hooks are in double rows over a certain number of segments.

Neoleprea streptochaeta (Ehlers).

Leprea streptochaeta, Ehlers, 1897, p. 130, pl. viii, figs. 203-205.

Neoleprea streptochaeta, Hesse, 1917, p. 192.

OCCURRENCE. St. WS 583 (1).

SPECIFIC CHARACTERS. Two pairs of richly branched gills. No eye-spots. 17-18 pairs of thoracic notopods. About 13 gland-shields. The dorsal bristles are characteristic. They are geniculate with twisted and denticulated tips. The hooks are in single rows on the first eight tori, behind which they are in double rows in all except the last few segments. There are two or three rows of teeth above the main fang of the hooks.

Genus **Loimia**, Malmgren

Three pairs of ramified gills. There are lateral lobes in the anterior region. The notopods begin on the fourth segment and the neuropods on the fifth. The bristles are smooth and the hooks are pectiniform and set back to back.

Loimia medusa, Savigny? juv.

Loimia montagui (Grube), Monro, 1930, p. 186.

Loimia medusa? Monro, 1931, p. 212, fig. 1.

OCCURRENCE. St. 413 (15); 446 (20); 448 (3).

SPECIFIC CHARACTERS. These small, postlarval, pelagic terebellids are exactly similar to the specimen described by me (*loc. cit.*, 1931) from St. 102 in the middle of the South Atlantic. They measure about 15 mm. in length and the third pair of gills is just beginning to appear. There are five or six teeth to the thoracic hooks. I have already expressed the opinion that these specimens are identical with Agassiz's larva which Fauvel in 1907 suggested might be that of *L. medusa*.

Genus *Pista*, Malmgren

One to three pairs of branchiae with a well developed main trunk. Lateral lobes in the anterior region. Notopods begin on the fourth segment and neuropods on the fifth. Bristles smooth. In the first few neuropods the hooks have long shafts. In the rest of the body they are avicular and in double rows over a certain number of segments.

Pista mirabilis, McIntosh.

McIntosh, 1885, p. 454, pl. li, figs. 1, 2; pl. xxviiA, fig. 34; pl. xxxviiiA, fig. 2.

Scione mirabilis, Benham, 1921, p. 85, pl. ix, figs. 97-100.

Pista mirabilis, Benham, 1927, p. 99, with synonymy.

Monro, 1930, p. 186, fig. 76.

Scione spinifera, Ehlers, 1908, p. 152, pl. xx, figs. 10-14.

Pista spinifera, Augener, 1932A, p. 60.

OCCURRENCE. St. 363 (1); WS 244 (2 with cluster of tubes); WS 245 (numerous); WS 246 (1); WS 871 (numerous with tubes).

SPECIFIC CHARACTERS. A single pair of gills. Large lateral flaps on the third segment and small ones on the fourth. There are 17 thoracic chaetigers and the gland shields extend to about the thirteenth. The bristles are narrowly bordered capillaries. The special hooks of the first thoracic torus have very long shafts and no denticles above the main fang. The normal uncini of the rest of the body have two to three rows of denticles above the main fang. The tubes are made of mud in which bundles of sponge spicules are usually embedded, and are furnished externally with characteristic spine-like processes.

REMARKS. Augener (*loc. cit.*) is not convinced that McIntosh's *mirabilis* and Ehlers's *spinifera* are identical. I have examined the hooks of the first thoracic torus in one of McIntosh's type specimens and they show the characteristic long shaft and absence of denticles above the main tooth. As Augener has pointed out, the main tooth is grooved at the sides and these grooves are probably equivalent to normal denticles.

In a specimen from WS 244 I noticed in the first thoracic torus a group of about six hooks with a well-developed second tooth above the main fang. The remaining hooks of the torus were of the typical unidentate form. This single second tooth is quite different from the row of denticles figured by Fauvel (1927, fig. 92 *e*) for the hooks of the first unciniger and I believe the *P. mirabilis*, McIntosh of Fauvel, to be a distinct form. Apart from this, the hooks of the second unciniger are not long shafted as Fauvel shows them.

Subfamily *THELEPINAE*

Tentacular lobes of prostomium not enlarged. Gills filiform and arranged in transverse rows. Uncini in single rows throughout the body.

Genus *Thelepus*, Leuckart

Dorsal bristles over a large number of segments. Branchiae two or three pairs, simple, cirriform not arising from a common stalk. No lateral lobes in the anterior

region. The notopods begin at the third segment and the neuropods at the fifth. Bristles smooth; hooks in single rows throughout the body.

Two pairs of branchiae	<i>T. cincinnatus</i>
Three pairs of branchiae	<i>T. setosus</i>

Thelepus setosus (Quatrefages).

Fauvel, 1927, p. 273, figs. 95 *a-h*.

Thelepus plagiostoma, Hessle (*nec* Schmarda), 1917, p. 214.

OCCURRENCE. St. WS 234 (1); WS 247 (1 juv.); WS 583 (1); WS 742 (4 juv.); WS 755 (3); WS 784 (2); WS 787 (1); WS 804 (1); WS 811 (4); WS 869 (4 with tubes).

SPECIFIC CHARACTERS. Three pairs of gills. Dorsal bristles on the first 30-60 chaetigers. About 20 more or less distinct gland-shields. Nephridia in segments 4-7. Abdominal region long, narrow and twisted. Towards the end of the body the uncinigerous tori form projecting, rectangular pinnules.

Thelepus cincinnatus (Fabricius).

Hessle, 1917, p. 212.

Fauvel, 1927, p. 271, figs. 95 *i-m*.

OCCURRENCE. St. 371 (numerous); WS 33 (2); WS 225 (2); WS 246 (4); WS 248 (2); WS 785 (1); WS 801 (1); WS 803 (1); WS 804 (8); WS 871 (numerous).

SPECIFIC CHARACTERS. Two pairs of gills. Eye-spots many and conspicuous. Dorsal bristles sometimes continued almost to the end of the body. Ventral gland-shields indistinct. Nephridia in segments 4-7. In the abdomen the uncinigerous tori are gradually transformed into projecting rectangular pinnules.

Genus *Streblosoma*, Sars

Dorsal bristles over a large number of segments. Two or three pairs of branchiae, each branchia consisting of several simple filiform filaments, not as a rule arising from a common base. Dorsal bristles smooth and capillary. They begin at the second segment. The hooks begin at the fifth segment (4th chaetiger). They are in single rows throughout the body.

Streblosoma bairdi (Malmgren) var. *antarctica*, var. nov. (Fig. 32 *a-f*).

OCCURRENCE. St. WS 33 (2).

SPECIFIC CHARACTERS. Of these specimens one is slightly larger than the other and measures 30 mm. by 2 mm. for about 55 chaetigers. They have 28 and 26 pairs of notopods respectively. Eye-spots are not visible. The buccal segment forms a swollen underlip. The ventral surface is glandular over about the first 20 chaetigers, but the glands are more highly developed over the first 10. Three pairs of gills composed of one or two simple filaments. Nephridial papillae not visible. Dorsal bristles capillary, of two kinds: (1) a longer kind with a narrow smooth border (Fig. 32 *a*); (2) a shorter kind apparently without a border (Fig. 32 *b*). The hooks begin at the 4th chaetiger and in the anterior region have a transverse row of two to three teeth (Fig. 32 *c, d*) above the main

fang and above these a very inconspicuous row of denticles; in the abdominal region the hooks (Fig. 32 *e, f*) have two transverse rows of teeth above the main fang and above these a number of small denticles. There is a well-marked subrostral prolongation. In the hinder region the tori are gradually transformed into projecting rectangular pinnules.

This variety differs from the stem-form in having the borders of the longer type of bristle apparently smooth and not striated, and the denticles of the thoracic hooks are fewer and less conspicuous.

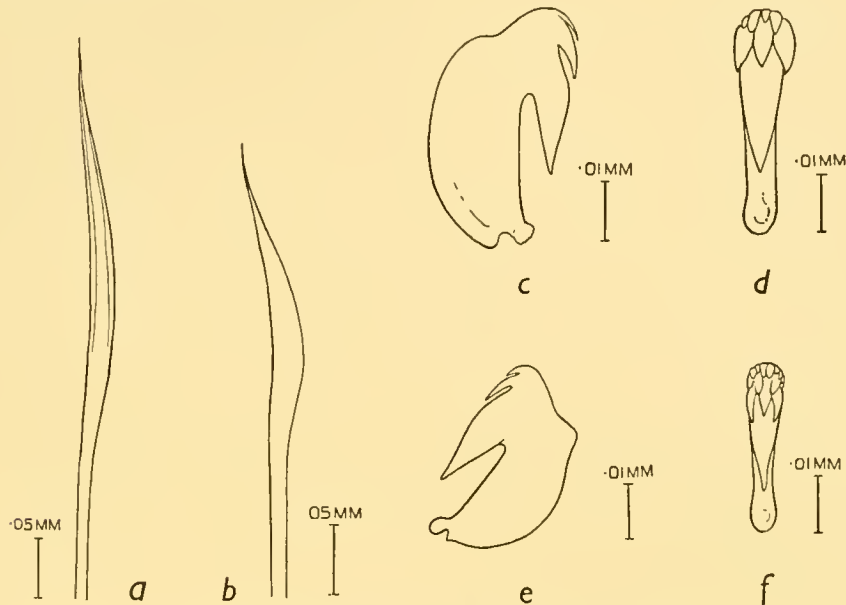


Fig. 32. *Streblosoma bairdi*, var. *antarctica*.

- | | |
|----------------------------------|------------------------------------|
| a. Bordered thoracic bristle. | d. Thoracic hook seen from front. |
| b. Simple thoracic bristle. | e. Abdominal hook seen from side. |
| c. Thoracic hook seen from side. | f. Abdominal hook seen from front. |

REMARKS. The differences between this variety and *S. bairdi* are slight, as indeed are those between the latter and the tropical *S. verrilli*, Treadwell, of which *S. crassibranchiata*, Treadwell, is a synonym, and *S. persica* (Fauvel). There are differences in the degree of development of the branchiae and of the eye-spots, in the position of the first unciniger and in the number of denticles on the hooks, all characters subject to considerable individual variation. I am not convinced that in *S. bairdi* we do not possess a somewhat variable species that is cosmopolitan in distribution. *S. coespitosa* is distinguished by having sessile neuropods in the abdominal region.

Subfamily POLYCIRRINAE

Tentacle-bearing region of head enlarged to form a prominent, often folded and lobed lip bearing very numerous tentacles. No gills. Uncini, if present, in single rows throughout.

Genus *Polycirrus*, Grube

Prostomium a large and folded lobe bearing very numerous tentacles. No gills. The notopods begin on the second or third segment and the neuropods are very variable in their segment of origin, being sometimes altogether absent from the anterior region. The dorsal bristles are smooth or spinous. The hooks are avicular and arranged in single rows.

Dorsal bristles very narrow and bordered *P. hesslei*
 Dorsal bristles with rather wide, unbordered wings *P. kerguelensis*

Polycirrus kerguelensis (McIntosh).

Ereutho kerguelensis, McIntosh, 1885, p. 474, pl. xxviiiA, figs. 20-21.

Polycirrus kerguelensis, Gravier, 1911, p. 141, pl. xi, fig. 136.

Hessle, 1917, p. 221.

OCCURRENCE. St. 42 (2); WS 33 (1).

SPECIFIC CHARACTERS. These specimens like the others recorded by me from South Georgia have 11 pairs of cirriferous notopods and the neuropods begin behind the last notopod. There may be as many as 15 pairs of notopods, and neuropods may be present on the last two or three thoracic segments. The ventral gland shields of the first and second segments form a broad plate divided by a groove into a larger anterior and a smaller posterior part.

The lateral pads are well developed for about the first five chaetigers. The bristles have rather broad serrated wings. The hooks have in profile two teeth above the main fang.

Polycirrus hesslei, Monro.

Monro, 1930, p. 195, fig. 81 a-c.

OCCURRENCE. St. WS 583 (1).

SPECIFIC CHARACTERS. Cephalic lobe a trilobed, undulating membrane. Ventral glands of first, second and anterior part of third segment fused into a large roughly shield-shaped pad. About 10 pairs of ventral gland shields widely separated in the median line. Bristles begin on the second segment and there are 13 pairs of notopods with cirriform processes. The bristles are lightly bordered capillaries. The hooks begin at the 14th chaetiger, and above the main fang there is a single tooth surmounted by a row of about six denticles. There are six pairs of nephridia extending from the third to the eighth segment. They decrease in size from the first to the third pairs; the remainder are of equal size and smaller than the third pair.

Genus *Hauchiella*, Levinsen

No bristles or hooks. The anterior nephridia are longer than the posterior.

Hauchiella tribullata (McIntosh).

Hessle, 1917, p. 233, with synonymy.

McIntosh, 1922, p. 201, pl. cxxxviii, figs. 13, 13 a, b.

Monro, 1930, p. 197.

OCCURRENCE. St. 123 (1).

SPECIFIC CHARACTERS. No eye-spots. Ventral surface of first segment forms a lower lip. In the anterior region the segments are rather indistinctly subdivided into secondary rings. Small, rectangular ventral gland shields continued to the hinder end. Four pairs of nephridiopores of which the three hinder pairs are very large and conspicuous. Nephridia in the third, fourth, fifth and seventh segments (*vide* Hessle). The present specimen is damaged and in poor condition.

Subfamily *TRICHOBRANCHINAE*

Cephalic lobe not enlarged. Branchiae filiform. Thoracic and abdominal uncini of two distinct types. Thoracic uncini aciculiform, abdominal uncini pectiniform or avicular.

Genus *Octobranchus*, Marion and Bobretzky

The head carries only one kind of tentacle dilated at the extremity. Four pairs of simple filiform branchiae. Anterior segments carry membranous collars on the lateral and ventral surfaces. No ventral gland shields. Dorsal bristles capillary. Thoracic hooks with very long shafts, arranged in sessile tori. Abdominal hooks small, pectiniform, carried by prominent rectangular pinnules.

Octobranchus antarcticus, n.sp. (Fig. 33 *a-g*).

OCCURRENCE. St. 182 (1).

SPECIFIC CHARACTERS. The single specimen is a ripe female measuring 17 mm. by 2 mm. for 28 chaetigers. The hinder end is damaged and I cannot tell whether the specimen is complete. The tentacles are lost and all the gills except the left member of the fourth pair. In spirit there is no colour. The head has a horseshoe-shaped upper lobe without folds and ventral cushions. Dark brown eye-spots are present in a band. The buccal segment sends forward a stout under-lip. The second segment sends forward below the under-lip a ventral lappet with an uneven lobate edge. The third forms a pair of more or less spatulate ventro-lateral lappets joined by a low fold across the ventral surface. The fourth and fifth segments form enormous lateral and ventral collars, open dorsally. The 6th segment forms a pair of relatively small, rounded lappets at the sides of the body below the notopods (Fig. 33 *a*).

There are 16 thoracic chaetigers. The first notopods are on the fifth, or last branchiate, segment. The uncini begin on the fourth chaetiger or eighth segment. There are no ventral gland shields. The single branchia consists of a stout basal column surmounted by a filiform tip. The scars indicating the place of attachment of the three additional pairs of branchiae are visible on the second, third and fourth segments. As I wish to leave the only remaining branchia in place I am unable to examine its structure in detail.

The bristles are borne by prominent notopodial lobes (Fig. 33 *f*) with two lips. They are of two kinds: (1) very delicate and transparent short capillary bristles (Fig. 33 *c*); (2) larger bristles with narrow borders and long hair-like tips (Fig. 33 *d*). Both kinds are smooth. In the thoracic region the uncinigerous tori are sessile, but in the abdominal region they are from the first abdominal segment borne on prominent

rectangular pinnules. In the thoracic region the hooks (Fig. 33 *e*) have very long shafts and the head consists of a single large tooth surmounted by a crest of denticles. All the thoracic hooks appear to be of the same kind. The abdominal hooks (Fig. 33 *f, g*) are small and pectiniform. They have two transverse rows of four to five teeth above the main basal tooth. They are furnished with long chitinous supports (*soies de soutien*). The hinder end of the body is damaged.

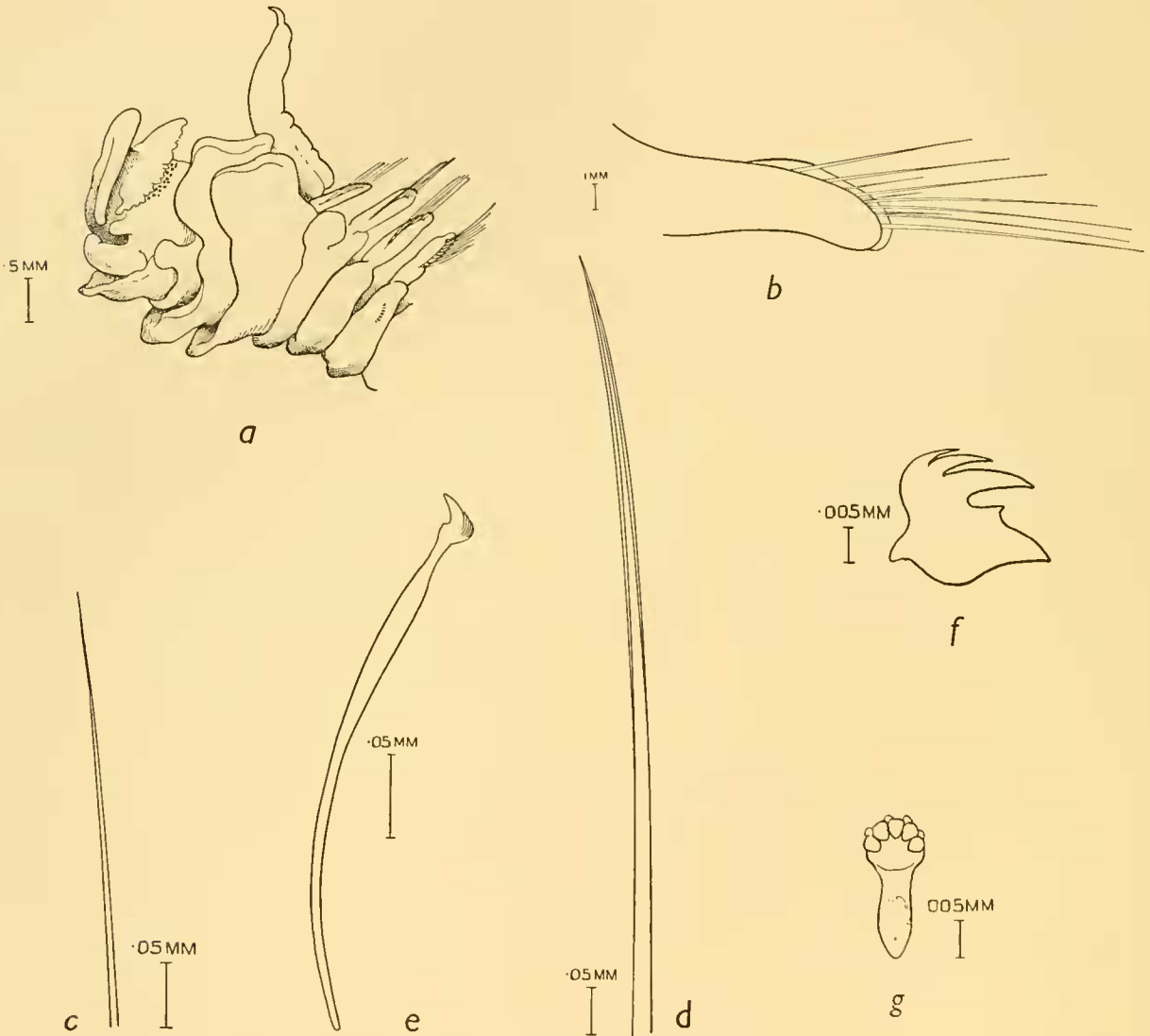


Fig. 33. *Octobranthus antarcticus*.

- | | |
|---|--|
| <p><i>a.</i> Anterior region from the side.
Tentacles and all the gills
except one are missing.</p> <p><i>b.</i> Thoracic notopod.</p> <p><i>c.</i> Shorter thoracic bristle.</p> <p><i>d.</i> Longer thoracic bristle.</p> | <p><i>e.</i> Thoracic hook.</p> <p><i>f.</i> Abdominal hook seen from the
side.</p> <p><i>g.</i> Abdominal hook seen from the
front.</p> |
|---|--|

REMARKS. This species is based on very poor material but it nevertheless appears to be quite distinct from the other members of the genus. The first bristle-bearing segment is the fifth and not the third as in *O. lingulatus* and *O. japonicus*. Moreover, there are two distinct kinds of thoracic bristle and only one is recorded for *O. lingulatus* and *japonicus*.

Family SABELLIDAE

1. Pickaxe bristles present in the thoracic tori	...	...	...	...	...	...	...	2
Pickaxe bristles absent from the thoracic tori	...	...	...	...	...	...	...	3
2. Spatulate bristles present in the thoracic notopods	...	...	...	...	...	...	<i>Potanilla</i>	
No spatulate bristles in the thoracic notopods...	...	...	...	...	...	...	<i>Sabella</i>	
3. An anal spout or gutter present...	...	...	...	...	...	...	<i>Euchone</i>	
No anal spout	...	...	...	...	...	...	...	4
4. Thoracic dorsal bristles all of one type...	...	...	...	...	...	...	<i>Oridia</i>	
Thoracic dorsal bristles of two distinct types	...	...	...	...	...	...	<i>Chone</i>	

Genus *Sabella*, Linnaeus

Branchiae not spiral, without dorsal processes or subterminal eyes. The branchial filaments may or may not carry eye-spots. The collar is lobed. The first chaetiger has winged bristles. The remaining thoracic chaetigers carry dorsal bristles with wings of varying breadth and ventral avicular hooks and pickaxe bristles. The abdominal hooks are also avicular and the abdominal bristles winged.

Sabella oatesiana, Benham.

Benham, 1927, p. 135, pl. iv, figs. 116-122.

OCCURRENCE. St. WS 788 (4).

SPECIFIC CHARACTERS. There are no tubes with these specimens. The largest measures 44 mm. by 3 mm. for about 50 chaetigers. The gills are 12 mm. in length. On the gills there are a number of scattered eye-spots varying widely in number and distribution from individual to individual. In one specimen they form two fairly conspicuous irregular bands and in another specimen at the other extreme two or three scattered spots only can be found after careful searching. Minute eye-spots are also present between the rami of the feet in all chaetigers except the first and there are two groups of spots on the pygidium. There are about 20 pairs of gills with slender tips free from barbules. There is a palmar membrane extending for about one-fourth the length of the gills. The pair of long subulate palps extends well beyond the end of the palmar membrane. Dorsally the collar is widely open. It begins with the notopod of the second chaetiger, is slightly incised ventro-laterally and forms a pair of rounded, backwardly curving, ventral lappets. There are eight thoracic chaetigers. The first chaetiger has winged bristles only. In the other thoracic segments there are winged bristles of two types, the one long and the other shorter and with wider wings. The thoracic uncini are avicular with the manubrium prominently rounded in front and curved posteriorly. The main tooth has a crown of numerous denticles. The pickaxe bristles have a long

styliform extremity. In the abdomen the uncini are very similar to those of the thorax and the bristles are also similar to the thoracic, but more slender.

REMARKS. This species is very close to the northern *S. fabricii*, Kröyer.

Genus *Potamilla*, Malmgren

Branchiae symmetrical, not spiral, without dorsal appendages. The filaments often carry rows of simple or compound eyes. The collar is lobed. The first chaetiger has winged bristles. The dorsal bristles of the remaining thoracic chaetigers consist of winged chaetae and spatulate chaetae. The thoracic tori carry avicular hooks and pickaxe bristles. The abdominal uncini are also avicular and the abdominal bristles are winged.

Potamilla antarctica (Kinberg).

Potamilla antarctica, Gravier, 1907, p. 59, text-figs. 38-43.

Potamilla antarctica (Kinberg), Fauvel, 1916, p. 474, pl. viii, figs. 4-7.

Benham, 1921, p. 109, with synonymy.

OCCURRENCE. St. 190 (numerous); 363 (numerous); 366 (3); 371 (9); 474 (4); WS 231 (1); WS 583 (6); WS 782 (1); WS 785 (4); WS 787 (2); WS 804 (1); WS 805 (1); WS 811 (1); WS 837 (2).

SPECIFIC CHARACTERS. Up to about 230 mm. in length exclusive of the gills. There may be no colour or the gills may have a number of conspicuous bands of reddish brown pigment confined to the barbules and to the inner faces of the filaments. The collar is widely open on the dorsal surface. It slopes upwards and backwards from the front, is entire laterally and forms two ventral lobes separated by a deep incision. The normal number of thoracic chaetigers is eight, but this is subject to variation (*vide* Benham, *loc. cit.*, p. 111). There is no branchial palmar membrane. There is a pair of palps about one-third as long as the gills. They are foliaceous at the base and have long cirriform terminations. There are winged bristles only in the first chaetiger. The remaining thoracic notopods have winged bristles and spatulate bristles, and there are no chaetae transitional between the typical spatulate bristles and the winged bristles. The thoracic tori carry uncini with a crest of denticles and a long base. There are also pickaxe bristles. In the abdomen the uncini have shorter bases than in the thorax. The abdominal bristles are rather more curved and widely winged than the thoracic.

In this species the eggs are incubated inside the branchial plume. The tubes are yellowish, horny and to some extent incrustated with sand grains.

Genus *Oridia*, Rioja

The members of this genus are small. The branchiae are symmetrical, not spiral and without dorsal processes or eyes. A collar is present. The first chaetiger carries bordered bristles. The dorsal bristles of the remaining thoracic chaetigers have narrow wings and are all of the same type. The thoracic hooks have a long downwardly directed manubrium. There are no pickaxe bristles. The abdominal hooks have a short base and no posterior prolongation. The abdominal bristles are capillary and often geniculate towards the base.

Oridia limbata (Ehlers).

Oridia limbata, Ehlers, 1897, p. 137, pl. ix, figs. 211-216.

Fauvel, 1916, p. 476.

Oridia limbata, Benham, 1927, p. 130.

OCCURRENCE. St. 164 (12); WS 564 (9).

SPECIFIC CHARACTERS. Up to about 5 mm. in length. The species is alleged to have otocysts, a pair of cephalic and a pair of pygidial eyes. These are not visible in the present specimens. There are 13 or 14 chaetigers of which eight are thoracic. A collar is present forming a pair of small triangular lappets in the mid-ventral line. Above these lappets is a pair of cirriform processes which I take to be intrabranial filaments or elongated barbules. There are three pairs of gills. The rachis of each filament has a membrane or border and the barbules cease some distance from the tip. The thoracic bristles are bordered capillaries and the thoracic hooks have a long curved manubrium and about three rows of denticles above the main fang. The abdominal bristles are very slender, unbordered capillaries. The hooks have a short, rounded base and on the face a series of rows of denticles above the basal tooth.

REMARKS. I have not been able to see the bend in the shaft giving the geniculate character to the abdominal bristles, but this may be the fault of the material.

Genus *Chone*, Kröyer

Branchiae symmetrical, not spiral, without eyes or dorsal appendages. A high palmar membrane. Cirriform intrabranial filaments often present. A well-developed collar. No caudal membrane on the terminal segments. The first chaetiger carries bordered capillary bristles. The bristles of the remaining thoracic chaetigers consist of bordered chaetae and spatulate chaetae. The thoracic hooks have long downwardly directed manubria. There are no pickaxe bristles. The abdominal hooks have short bases without a posterior prolongation, and the abdominal bristles are narrow capillaries.

Chone duneri, Malmgren.

Fauvel, 1927, p. 336, fig. 117 l-r.

OCCURRENCE. St. WS 648 (numerous).

SPECIFIC CHARACTERS. These specimens are smaller than the northern representatives of this species, but otherwise I can find no grounds for separation. They measure 12-13 mm. by 1 mm. for about 32 chaetigers, and I take them to be immature. There are eight thoracic chaetigers. The gills end in long filiform tips and there is a palmar membrane for more than half their length. The collar is entire, dorsally oblique and joins on each side of the mid-dorsal line a pair of longitudinal lobes. The dorsal thoracic bristles consist of bordered capillary chaetae and spatulate bristles: the thoracic hooks have long manubria and crests of denticles above the main tooth. The abdominal bristles are long and very slender capillaries with extremely fine borders. The abdominal hooks have a characteristic appearance well shown in Fauvel's fig. r. They have a short, square base and a main tooth surmounted by denticles.

REMARKS. I have compared these examples with some specimens from Spitzbergen and except in the matter of size I can find no significant differences. I believe this to be the first record of this species from southern tropical waters.

Genus *Euchone*, Malmgren

Branchiae symmetrical, not spiral, without eyes or dorsal processes. A high palmar membrane. Cirriform intrabranchial filaments present. A collar is present and otocysts. At the hinder end there is a large anal depression in the form of a ventral gutter or spout. The first chaetiger carries bordered capillary bristles. The bristles of the remaining thoracic chaetigers consist of bordered capillaries and usually also of spatulate or subspatulate chaetae. The thoracic hooks have long downwardly directed manubria. There are no pickaxe bristles. The abdominal hooks have short bases without a posterior prolongation, and the abdominal bristles are narrow capillaries.

Euchone pallida, Ehlers.

Ehlers, 1908, p. 159, pl. xxi, figs. 10-15; pl. xxii, figs. 1-4.

Benham, 1927, p. 139, pl. iv, figs. 126-130.

Monro, 1930, p. 203.

OCCURRENCE. St. 123 (7); 366 (4).

SPECIFIC CHARACTERS. The only complete specimen, from St. 366, is slender for the species and has a body-length of 45 mm. and a gill-length of about 15 mm. It has 32 abdominal chaetigers. The specimens from St. 123 are smaller and have an average body-length of 20 mm. with 22 abdominal chaetigers. They have all lost their gills. In most of the known examples of this species the length of the gills is more than half that of the body. The palmar membrane extends about two-thirds of the distance up the gills. Branchial barbules very long and slender. Tentacular filaments without barbules are present inside the branchial plume.

The collar is open in the mid-dorsal line, at the sides of which it joins a pair of longitudinal fleshy pads below the branchiae. Benham calls these the nuchal gland. The collar is of an equal height all the way round except where it slopes down to join the nuchal gland. It is deeply incised in the mid-ventral line. The thoracic bristles are all narrowly-winged capillaries. There are no spatulate or subspatulate bristles. The thoracic uncini have long downwardly-directed manubria and denticulated heads. There are eight chaetigers in the thorax. The abdominal uncini have a short base with no backward process, about four rows of denticles above the main fang and a pointed boss below it. The abdominal bristles are slender, narrowly-bordered capillaries. The caudal membranes are deep and extend for the last 10-12 segments.

REMARKS. The characteristic feature of this species is the absence of spatulate or subspatulate bristles from the dorsal bundles of the thorax. Augener (1932*a*, p. 70) makes this species a synonym of *Euchone analis*, Kröyer. With this opinion I disagree. Kröyer's species has spatulate or subspatulate bristles in the thoracic notopods, which are wholly absent in the present species.

Family SERPULIDAE

- | | |
|--|----------------------|
| 1. Collar bristles bayonet-shaped | 2 |
| Collar bristles simple | 3 |
| 2. Collar bristles with a pair of large conical processes at base of blade. Operculum shaped like a funnel | <i>Serpula</i> |
| Collar bristles without large basal processes. Operculum ending in a flat calcareous plate with or without branching spines | <i>Spirobranchus</i> |
| 3. Operculum conical with or without spines | <i>Vermiliopsis</i> |

Genus *Serpula*, Linnaeus

Operculum funnel-shaped with radii ending in denticulations along the margin. The opercular peduncle is without wings. Collar bristles bayonet-shaped with two large conical teeth at the base of the blade. Thoracic bristles winged, abdominal bristles trumpet-shaped, hooks with few teeth.

Serpula vermicularis, Linnaeus.

Fauvel, 1927, p. 351, fig. 120 a-q.

Monro, 1930, p. 206.

OCCURRENCE. St. 27 (4); 160 (1); 190 (2); 366 (numerous); 371 (1); 399 (1); WS 27 (numerous); WS 79 (1); WS 177 (numerous); WS 225 (2); WS 237 (numerous); WS 243 (4); WS 244 (4); WS 246 (3); WS 748 (numerous); WS 766 (2); WS 772 (1); WS 781 (4); WS 782 (2); WS 784 (2); WS 785 (numerous); WS 795 (2); WS 804 (1); WS 811 (6); WS 813 (10); WS 814 (numerous); WS 840 (1); WS 848 (numerous).

SPECIFIC CHARACTERS. Collar bristles with a pair of large conical teeth at the base of the blade. Hooks with four to seven teeth. Tube very variable, cylindrical, rugose, transversely striated, with five to seven longitudinal ridges that may be denticulated. The tube ends in a peristome with a more or less everted lip. In the southern forms the lip of the peristome is more everted than in the northern (var. *narconensis*, Baird).

Genus *Vermiliopsis*, Saint-Joseph

Collar chaetae variable, usually winged or denticulated. *Apomatus* bristles present in the thorax. Hooks with numerous teeth. Abdominal bristles geniculate. Opercular peduncle without wings. Operculum conical, with or without spines.

Vermiliopsis notialis, Monro.

Monro, 1930, p. 209, fig. 87 a-e.

OCCURRENCE. St. WS 33 (2).

SPECIFIC CHARACTERS. Five thoracic chaetigers. Opercular pedicle without wings. Operculum a vesicular body surmounted by a cone covered with chitinous spines except for a triangular area running up its outer face. Collar bristles of two kinds, (1) winged bristles and (2) fine capillary bristles with a denticulated edge. The abdominal bristles are geniculate. The tube has three longitudinal denticulated ridges and a very large peristome.

The present specimens are in poor condition, but I am able partly to supplement my previous account of this species. There appears to be no palmar membrane. There are only five thoracic chaetigers as in *Josephella marenzelleri*. The thoracic membrane is short, arising between the 2nd and 3rd chaetigers and fusing with the collar anteriorly. The collar is high, folded and apparently without incisions. In the mid-ventral line it sends forward a long, pointed tongue. Moreover, again as in *Josephella*, there appears to be an achaetous region between thorax and abdomen almost as long as the thorax itself.

It seems very doubtful whether this species is capable of inclusion within *Vermiliopsis*, but I am unwilling to establish a new genus on material so poor.

Genus *Spirobranchus*, Blainville

Opercular peduncle winged. Operculum ending in one or more flat calcareous plates with or without a terminal group of branched spines. Collar bristles bayonet-shaped with a finely hirsute edge. Abdominal bristles trumpet-shaped. Hooks with numerous teeth.

Spirobranchus latiscapus (Marenzeller).

Pomatostegus latiscapus, Marenzeller, 1885, p. 218, pl. iv, fig. 5 a-d.

Spirobranchus latiscapus, Benham, 1916, p. 158, pl. xlvi, figs. 46-50.

Augener, 1926, p. 272.

OCCURRENCE. St. 941, New Zealand (2).

SPECIFIC CHARACTERS. Of these specimens one measures 23 mm. by 3 mm.: the other is immature and measures 9 mm. by 1 mm. The opercular pedicle is winged. The operculum consists of one to five thin calcareous plates set one above the other in a pile. There are no spines or processes. Sometimes as in the smaller of the present specimens there is only a single plate. Collar chaetae of two kinds, (1) with a short wide striated fin-like process at the base of the narrow anterior blade; (2) simple capillary bristles. The collar is entire ventrally and sends forward a folded extension in the mid-ventral line. It is incised dorso-laterally and forms a pair of small dorsal lobes. These are covered by the very large rounded lobes which are the anterior portion of the thoracic membrane.

The uncini have about a dozen teeth in addition to the basal gouge; they are slightly smaller in the abdomen than in the thorax. The abdominal chaetae are trumpet-shaped.

REMARKS. I have with some hesitation followed Benham and Augener in transferring this species from *Pomatostegus* to *Spirobranchus*. In Ehlers's view, the chief distinction between the two genera is the presence in *Pomatostegus* of abdominal sickle or *Salmacina* bristles and in *Spirobranchus* of abdominal trumpet bristles. On this ground the transference is justified, but consistency will then demand the transference of the well-known European *Pomatostegus polytrema* (Philippi), also with trumpet-shaped abdominal chaetae, to *Spirobranchus*. At any rate *polytrema* cannot remain in *Pomatostegus*. In my view the genera in the Serpulids are too narrowly drawn and it will eventually be found

necessary to reconstruct the classification with much wider generic divisions. The present species is very close to if not identical with Pixell's *Spirobranchus maldivensis*. Pixell's species is described as having a slightly higher number of teeth in the uncini—to which little importance is to be attached, especially as an exact count is very difficult to make—and as having an operculum with only a single calcareous plate. The smaller of the present specimens and one of the examples of McIntosh's 'Challenger' *Pomatoceros strigiceps* which Benham rightly identifies with Marenzeller's species, have a single opercular plate and appear to be inseparable from Pixell's *maldivensis*.

INCERTAE SEDIS

Loandalia aberrans, gen. et sp. nov. (Fig. 34 *a-h*).

Occurrence. St. 274, off St Paul de Loanda, Angola. From 8° 40' 15" S, 13° 13' 45" E to 8° 38' 15" S, 13° 13' 00" E. 64–65 m. Gear N 4–T. Bottom grey mud. One specimen.

DESCRIPTION. The specimen measures 35 mm. by 1 mm. for 110 chaetigers. The body is more or less cylindrical, somewhat flattened ventrally. The colour in spirit is pale yellow with indefinite brown markings along the sides. The pharynx is almost but not quite fully withdrawn and the exact shape of the head (Fig. 34 *a*) is difficult to determine. It is much broader than long and is squarely cut off in front. There are no eyes, and no tentacles or tentacular cirri. There is a minute pair of palps at the front border of the head. These consist of small cylindrical palpophores surmounted by minute button-like palps (Fig. 34 *b*).

I cannot distinguish the buccal segment from the head. The first foot is represented by a large black broken acicular bristle or hook high up on the sides of the body in the notopodial position. The second chaetiger is represented by a similar large black hook, also broken, accompanied by one or two minute bristles. This hook instead of being notopodial in position is neuropodial and there is no notopod.

The normal neuropods begin at the 3rd chaetiger and consist of cylindrical lobes carrying about half a dozen bristles. They are rather longer in the posterior region than in front. They are supported by an aciculum. For the first five or six chaetigers I can see no notopod. At about the 7th chaetiger the notopods appear in the form of small buttons, each with a large, colourless, transparent acicular chaeta or hook accompanied by two or three very minute bristles (Fig. 34 *c*). These hooks are all broken at the end, and look as if they were partly calcareous and had been attacked by acid. The minute notopodial bristles are nearly all lost. There are no dorsal cirri and the ventral cirri are small, papilliform processes coming out from the lip of the neuropodial chaeta-sac at its most ventral point.

The pharynx is unarmed and there is a thick muscular pharyngeal bulb occupying about the first five chaetigers. At the 54th chaetiger small, cirriform gills begin. They are shorter than the neuropodial lobes and are inserted at the hinder edges of the segments on a level with the neuropods (Fig. 34 *d*). They are continued to the end of the body. As regards the bristles, the notopodium carries a single very large transparent colourless hook and two or three minute bristles (Fig. 34 *e*). The latter are quite smooth,